



TENZ is the professional body that:

- fosters the development of Technology in the New Zealand Curriculum.
- develops and maintains national and international links between Technology education professionals and with the wider technological community.
- supports professional, curriculum, and resource development in Technology Education.
- encourages research in Technology Education.
- organises a biennial national Technology Education conference.
- operates as a special interest group that operates within IPENZ Engineers NZ

For details of TENZ membership see www.tenz.org.nz

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T-NEWS

Number 28 | May 2008

- 2 INDUSTRY LINKS
- 5 FROM THE CHAIR
- 7 TENZ REGIONAL FOCUS
- 8 MINISTRY INITIATIVES
- 11 PROFESSIONAL DEVELOPMENT
- 12 WHAT'S NEW ON TECHLINK
- 14 FROM THE WEB
- 15 FUTUREINTECH NEWS

School projects a hit at the Wellington Food Show



On 16 May, two classes from Wellington High School and Taranua College set up their booth at the Westpac Stadium to conduct what the food technologists call 'Central Location Tests' at the Wellington Food Show.

The Year 12 and 13 students are part of Enterprising Technologies – a trial project funded by the Ministry of Education and NZ Trade and Enterprise. "Enterprising Technologies combines the senior Technology Curriculum with the Lion Foundation Young Enterprise Scheme," says Janet Hunt, Manager Business Relationships, Enterprise NZ Trust.

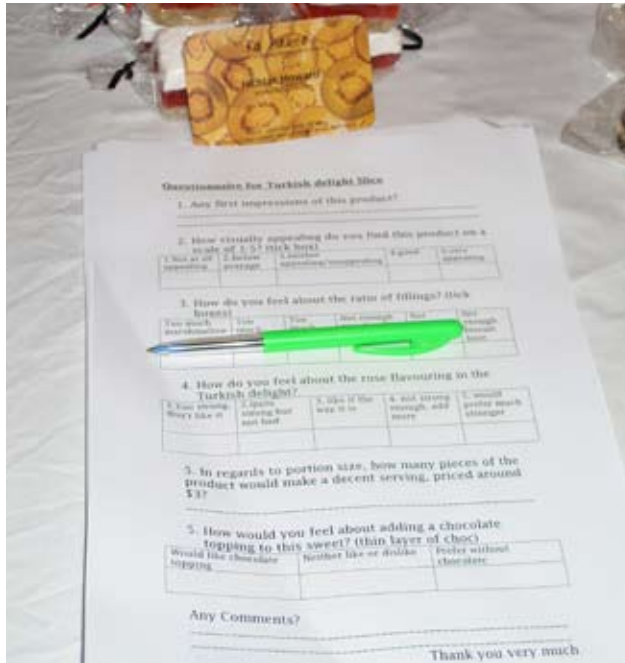
"As part of the programme students undertake two achievement standards in food technology (AS3.2 and AS3.7) and the Young Enterprise Certificate. This gives them 22 credits towards NZQA qualifications. The Young Enterprise Scheme is a hands-on business programme where students set up their own company, create real products/services, implement real marketing plans, earn real money, and keep real profits. This is not just an academic course but also a relevant and exciting journey."

The two classes are working with client company Wishbone – a provider of chef-prepared, fresh, healthy, ready-to-eat fast food. The company has challenged the students to develop a new 'healthy snack' or 'an indulgent snack' that could be added to their product range.



Two Lion Foundation Young Enterprise Scheme companies have been formed at each school, with each student in the company developing an individual product concept. With their teachers **Marietjie Van Schalkwyk** (Wellington High School) and **Rachel Hutchinson** (Taranua College) the two classes were accompanied on the trial by **Carol Pound** a food technology consultant who is mentoring the groups throughout the project.

In preparation for the food show, each student had pre-packaged mock up samples of their own individual snack concept and a generic feedback form was developed by the classes to be filled in by each person who tested the products. "It contained a mixture of sensory scales and a few questions about how they would like the product to be improved," says Carol.



“One of the most important aspects of the trial was the need to get all the preparation right. The students would only get one opportunity, so every last detail had to be checked and rechecked. Some of the students had experience of product testing, but this time they had to approach people they hadn’t met before – a much more challenging proposition.”

“It was a real event and they were going to be putting their own product in front of real people, so they took that particularly seriously,” says Carol

Despite some initial nervousness and hesitance the testing went better than anyone could have imagined.

“It was a really valuable experience for everyone. The students were swamped with people wanting to try their products and fill in surveys. I think they were surprised at the positive feedback they received from the public and other stall-holders about their project and the subject they were studying. It was great exposure for Technology – the other ‘foodies’ there couldn’t believe how the subject had changed,” says Janet.

Carol was delighted at the quality of the feedback that the students received. “The public was genuinely surprised at the quality of the food they were sampling. Each student now has between 20 and 40 completed

questionnaires which they can analyse back at school. They’ve got real data which will give them a lot of confidence when we move into the next phase of the project which is to incorporate the suggestions made in the development of their final concepts.

“Once they’ve made the changes they want to make they’re going to present their products again to the client for their further input into the process,” says Carol.

Each of the Lion Foundation Young Enterprise Scheme companies that have been formed will then decide which of their individual snack concepts will be taken through to be manufactured and sold.

We’ll keep you in touch as the project develops.



Eaton NZ helps keep Bright Sparks burning

For the second year running, Eaton New Zealand's Power Quality division has donated \$20,000 to the Bright Sparks initiative.

"BRIGHT SPARKS HAS BEEN PART OF technology education in secondary schools for ten years now. It is a well recognised and well supported programme in schools and in industry, but this direct sponsorship adds something special – the endorsement of Eaton, a leading hi-tech company, and some extra funding to help keep the initiative vital. It will be put to good use," says Marilyn Brady, Chief Executive of Electrotechnology Industry Training Organisation (ETITO) that runs Bright Sparks.

Richard Jenman, Site Manager of the Eaton Innovation Centre in Christchurch, affirmed that Eaton's decision to donate additional funds to the Bright Sparks programme was based on the degree of involvement of Eaton employees, the significance of the programme in the community and the alignment with Eaton values and philosophy.

"By supporting Bright Sparks, Eaton is able to help grow the future of our industry and assist ETITO in helping young New Zealanders see and prepare for a career with an exciting future," he says.

ETITO will use the donation to help fund:

- The Bright Sparks internet club and online forum with around 1,900 student members supported by industry mentors.
- The Bright Sparks HiTech Competition – an annual nationwide competition that recognises student innovation and excellence in electronics and software and gives young people the opportunity to connect with industry.

Eaton's also supported Bright Sparks by volunteering the use of their Christchurch Innovation Centre to host



ETITO CE Marilyn Brady receives the \$20,000 cheque from Richard Jenman of the Eaton Innovation Centre, Christchurch

the Bright Sparks Expo in November 2007. At this event talented students celebrated their achievement in the Bright Sparks HiTech Competition and showcased their electronics and software inventions to key people from the local hi-tech industry and the media.

"The fact that 1,900 students are currently engaged in the Bright Sparks programme and that a key organisation such as Eaton identifies Bright Sparks as a community for sponsorship is proof that Bright Sparks is valued by both young electronics enthusiasts and New Zealand's hi-tech industry," says Ross Petersen, ETITO Bright Sparks Manager.

Ross is hopeful that Eaton's commitment to the future of the industry will inspire other New Zealand hi-tech companies to follow suit.

Great ideas have no age limits. In fact some of the world's top inventors came up with their best inventions when they were barely in their teens. It's the best time to push the boundaries, ask the questions, take the risks, and above all – be brave. So accept the challenge, get your ideas noticed, earn nationwide recognition and win great prizes.

Enter the 2008 Bright Sparks Competition and show the world what makes you great!

www.brightsparks.org.nz

BRIGHTSPARKS
2008 Competition
Now Open

Greetings

I trust you all managed to have a break over the holidays and are well into the traditionally very busy second term. The TENZ Council has been working very hard on your behalf promoting technology education through a range of initiative and meetings.

TECHNOLOGY TEACHERS ASSOCIATIONS WORKING PARTY (TTAWP)

TTAWP met in Dunedin on 29 March. This meeting was attended by Andy Parsons, John Maguire (NZGTTA), Myf Skuse (HETTANZ), Sue Parkes and me (TENZ). Cheryl Pym forwarded an apology.

The meeting proved to be a very positive one, with all three subject associations positive about a collaborative approach for the benefit of technology education in New Zealand. Below are the aims and issues the group identified, and the Terms of Reference for future guidance.

Overall Aim

Enhancing the delivery of Technology Education from Years 1 to 13

Current Common Issues

1. Professional development and the re-training of teachers in Technology Education for implementation of the new curriculum
2. Expectations of schools, ie, of management and colleagues
3. Community /parent understandings and perceptions of Technology Education
4. The desire for general Technology Education from Years 1 to 11 inclusive
5. Facilities that in many cases are outdated

Terms of Reference

1. TTAWP cannot make decisions on behalf of the three associations, rather, it acts as a forum for open discussion.
2. Common identity to be forged with the use of all three logos on letterhead and all correspondence.
3. Specific project focus. The group will have a specific focus or project, rather than just general discussion.
4. Meetings to be held at least once year face-to-face and at other times electronically as required.
5. The group supports the idea of a shared response for emerging issues e.g. in political lobbying.
6. Informing the MOE of its existence and purpose with the suggestion that this group be the first port of call for issues that relate to Technology Education. The group is well placed to assist the Ministry in its dissemination of information.

7. It is about collaboration and cooperation between the three organisations for the benefit of children's learning in technology education.

The group also identified a number of issues that they would like to begin to address in the near future. These included such things as: outdated facilities; expectations of and /or lack of understanding and knowledge of technology in senior management in schools; and community expectations of technology - with a general lack of understanding within the parent body and wider community about the nature and value of technology education.

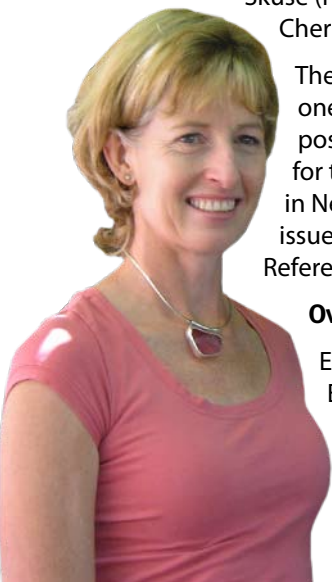
We would appreciate comments and ideas about the role of this group and the directions you think it should be taking.

RESEARCH CONTRACT

The research team of Gary O'Sullivan, Louise Milne and me is well underway. A questionnaire was sent out to a number of schools throughout the country early last week. Many thanks to those who returned the questionnaires by the due date of 31 May.

We can now develop baseline data about resources and materials used and required for implementation of technology. The research team plan to meet again in Palmerston North in mid June to collate the data and report findings to the materials development group. This is likely to be followed by a series of focus group interviews.

We fully understand how busy you all are in schools and appreciate your involvement and opinions. This is our chance to get relevant and useful resources to support technology education.





ACHIEVEMENT STANDARDS ALIGNMENT

On behalf of TENZ, NZGTTA and HETTANZ, I recently forwarded an 'Expression of Interest' to the Ministry of Education relating to the MoE project for alignment of unit and achievement standards and achievement objectives.

Two representatives from each organisation met by teleconference early in May to determine a plan of action for this project. It was decided at that meeting that there were too many 'unknowns' to actually submit a full proposal in the given time frame. Our 'Expression of Interest' informs the MOE of our intention to be fully involved in the project, but requests more information on a number of issues, such as which existing standards are to be included in the review.

EMAIL ADDRESSES

A reminder that we have established email addresses specifically for each TENZ region, the Council, the conference and t-news.

TENZ Council: email council@tenz.org.nz

t-news: email tnews@tenz.org.nz

Conference: email conference@tenz.org.nz

The TENZ regions and their chairs are:

Auckland and Northland

Paul Neveldsen, email auckland@tenz.org.nz

Waikato

Jenny Mangan, email waikato@tenz.org.nz

Central Districts

Brian Allen, email centraldistricts@tenz.org.nz

Wellington

Ann Bondy, email wellington@tenz.org.nz

Northern South Island

Paul Snape, email nth-southisland@tenz.org.nz

Southern South Island

Christine Elder, email sth-southisland@tenz.org.nz

TO CLOSE...

Last week I was lucky enough to be invited to Hilmorton technology centre by a former student Aaron Cribb, who is teaching Year 7-8 technology. I thoroughly enjoyed the morning. Aaron had arranged that I would role-play that I had lost my cell phone (I actually had) and that I needed a safe place at home where I could store and recharge my phone. I was very impressed with the questions the children then asked me, "Do you like modern or old things?" for example.

It was delightful to see the children so motivated and excited at the thought of helping someone whom they had just met. We really do have some wonderful young people in our schools.

After this specific class I was given a few lessons on safely using a plane, horizontal drill, vertical drill, band saw, chisel and tenon saw, giving me more confidence to teach these skills safely to my teacher trainee students when they require them.

Happy technology teaching,

Wendy Fox-Turnbull

Chairperson, TENZ National Council

Curriculum workshop

At the end of Term one around 25 Christchurch primary and intermediate teachers attended a three-hour afternoon workshop on the new curriculum, organised by the Northern South Island TENZ branch.

Canterbury University Technology lecturers Wendy Fox-Turnbull and Paul Snape gave a presentation on Technology Education in general, which was followed by an interactive session facilitated by MoE National Technology Professional Development Manager Cliff Harwood.

A follow-up session focused on technology resources. Here Nick Maitland from the Techlink Materials Development team navigated the 20 primary, intermediate and secondary teachers through the highways and byways of the Techlink website. The session was very much appreciated by those who were able to attend.



Paul Snape helps Trish Winter, Mairehau High, and Greg Preston, Burnside High, navigate www.techlink.org.nz

Southern South Island network up and running

Our focus on the TENZ regional networks continues with an interview with Christine Elder the inaugural chairperson of the newly formed Southern South Island group.



CHIRSTINE ELDER HAS TAUGHT IN THE SOUTH Otago region for a number of years, the last six teaching Food and Soft Materials Technology at the Balclutha Technology Centre. The two-teacher Centre services nine local schools with nearly 300 Year 7 and 8 students coming in, mainly by bus, every week.

Talking with Christine, you quickly gain an appreciation of her understanding of the value of technology education and the enjoyment she gets from teaching Technology to Years 7/8 students.

"We're totally immersed in teaching technology. We get the whole range of students coming through the centre. They're keen and creative and they actually want to be here – that's the main thing"

She took up the leadership challenge after attending the 2007 TENZ conference in Auckland, quickly making contact with a number of locals and over the first part of 2008 gathering her organising committee together.

"We've got five people keen to be involved at this stage: Julie McMahon from Columba College in Dunedin; Angela Miller from the College of Education; my colleague Simon Kay here at the Technology Centre; and Marie Blakley from Logan Park High School. We've got most of the bases covered but we're hoping to get a primary teacher on board in the near future."

With a region stretching from Oamaru south and across to Fiordland, the immediate challenges facing the group are obvious: "TENZ has a strong support base in rural schools but we need to raise the awareness in the city schools" says Christine. "At this stage it's really just getting out there and making contact with people."

"We've made contact with all schools by email, but you don't get many responses back. It's better to pick up the

phone and find out if the information has actually got through. We really need to track down HODs, find out who is teaching Technology and phone them."

The first network activity was a visit to the Da Vinci Machines exhibition at the Otago Museum in Dunedin.

There are many networking opportunities in the region, but with a two-hour round trip to get to Dunedin Christine is only too aware of the difficulties that rural teachers face in getting to after school activities. The organising group are actively exploring other options including Saturday morning meetings and accessing available school based e-learning facilities.

When asked to identify priorities Christine reinforced comments made by Paul Snape in a previous issue of **t-news**. Paul alluded to long term difficulties that Canterbury primary schools in particular have had in accessing relevant curriculum related PD.

Christine cites similar problems in her region: "It's not a criticism of the support people in the region, we simply haven't had enough time to meet the demand. So with the new curriculum coming in, ensuring that relevant PD opportunities can be made available to all schools in the region must be a priority for the support network."

Working in relative isolation in South Otago, Christine passionately believes in the value of networking. "It's that sharing thing. We've got to provide opportunities for teachers to share what's been working for them. It's not so that others can just pick it up and totally run with it, but they'll be able to think about what they see and perhaps modify it to suit what they need."

To find out more about the activities of the Southern South Island TENZ network contact Christine at: sth-southisland@tenz.org.nz

It's "steady as she goes..."

THIS IS THE FIRST OF A REGULAR SERIES OF ARTICLES by Geoff Keith and Niall Dinning that focus on Ministry policy and strategies related to technology education.

Geoff Keith, Senior Advisor with responsibility for the Technology learning area at the Ministry of Education is leading the implementation of the technology curriculum in *The New Zealand Curriculum (2007)*.

Niall Dinning is contracted as National Co-ordinator for Technology Education to manage technology related projects, communicate with the sector and develop the strategic direction for technology education.



Since the launch of *The New Zealand Curriculum (2007)* in November and the immediate release of the comprehensive support package for the technology curriculum on the Techlink and TKI web sites, things appear to have quieted down a bit. Here Geoff Keith and Niall Dinning keep us on up-to-date on developments.

THE MESSAGE COMING THROUGH IS THAT IT'S VERY much "steady as she goes" and that, for teachers, the next two years will be a period of consolidation.

"The support package reaffirms Ministry of Education support for a vision for technology education to provide 'seamless' quality learning opportunities in technology for all New Zealand students as part of their compulsory schooling, and to further support technology programmes for students in Years 11 to 13," says Geoff.

The high level of interest shown in the web-based materials is reflected in the Techlink web statistics which show an average of 12,000 hits a month over that period with well over 1,000 downloads of the whole document in PDF format.

While delighted at this broad level of interest across the three new strands, Geoff is quick to stress that the key implementation messages remain the same. "Over the 2008–2009 period the focus for teaching and learning

should be firmly on the Technological Practice strand for the purpose of summative assessment, school reporting and credentialing students for NCEA qualifications," he says.

"This isn't to put people off exploring the other strands, but the emphasis should first be on how these two strands support technological practice. Teachers can confidently concentrate on teaching important context specific knowledge and skills within technological practice. Progression in technological practice is now well understood and it is this which should be the focus of teaching and student learning, with assessment and reporting of achievement being carried out using all eight achievement objectives."

These messages have been consistently delivered to a range of audiences as opportunities have arisen over the first half of this year. During the first term Niall was invited to present sessions focusing on curriculum related issues, on behalf of the Ministry of Education, at both the New Zealand Association of Intermediate Middle Schools (NZAIMS) Summit day and The Post Primary Teachers Association (PPTA) national conference.

"The brief at both was to present challenges around the revised technology curriculum", says Niall. "Specifically for the AIMS group I was asked to comment on current practice. There were well over 100 principals and HODs there from almost 80 schools and I made some strong observations about the diversity which is evident at the moment.

"It was encouraging to get a commitment on the part of those principals and teachers, as well as the national executive of NZAIMS, to push further into looking at their practice."



At both conferences, Niall reiterated the Ministry's vision of 'seamless technology education' from Years 1 to 13 and the implementation focus over the next two years. He was also given an opportunity to raise current challenges in technology education.

These include:

- the need for a 21st century focus;
- transitions to work and tertiary education;
- transitions from primary and intermediate schools;
- links to the Schools Plus initiative;
- cross curricular opportunities;
- increased levels of understanding of technology education both within the school and its parent/caregiver community and the wider community.

Niall also outlined proposed Ministry support for teachers through the implementation phase. He indicated that ongoing support for HODs and Advisers would be maintained, that content on the Techlink web site would continue to expand and be supplemented by a technology print publications strategy.

"A major focus over this first part of the year has been on the development of a unit planning and assessment resource for teachers – that's assessment to support learning right through from Years 1 to 13, not assessment for qualifications," says Niall. "It will focus on the Technological Practice strand but it will be appropriate across the entire curriculum."

As with existing curriculum support material, the new support material will be web based, published on the Techlink site and be available for download in PDF format.

Geoff also points to the opportunities provided by the Standards Alignment Project that the Ministry has now initiated.

"This is necessary to align the existing Technology achievement standards with *The New Zealand Curriculum (2007)*. It will also seek to address issues relating to duplication and mismatches in credit values between technology achievement standards and unit standards."

The opportunity to have subject associations more closely involved in the development and consultation process has been recognised within the Ministry and a process for submission of proposals has now begun.

"The alignment project also gives the opportunity to explore the fit between Graphics and *The New Zealand Curriculum (2007)*," says Niall, "and specifically with exploring and discussing the desired links between graphics and technology and the visual arts learning areas."

An initial meeting will be held towards the end of May to discuss the process that graphics will use to align with the new curriculum.

"There are other subjects such as Accounting that have similar issues. This meeting will give representatives from across the breadth of the graphics community an opportunity to identify the options which have opened up and to develop a model for consultation with the wider graphics community," says Niall.

Niall also pointed to the 'Implications' research project which is its exploration phase, "with the researchers now involved heavily with the teachers in the project."



Believe it or not . . .

The soon-to-be-completed Lagoon Plaza towers at Doha's West Bay are thought to be the world's tallest 'zig-zag' towers. Known locally as the 'dancing towers', the twin-tower complex occupies a prime waterfront site in the Qatar capital.

Uniquely designed, each 143m-high tower will include 34 residential floors providing a total of 748 luxury apartments. The development will also feature a large shopping mall and leisure facilities including swimming pools, saunas, Jacuzzis, coffee shops and restaurants.

Work on the project started in February 2006 with a handover scheduled for later this year. This is structural technology at its most imaginative and technically complex!

Thanks to Chris Burr for bringing this photo to our attention



Raising the profile of technology education

Geoff and Niall co-ordinated a recent meeting between the Minister of Education, the Hon Chris Carter and Dr Marc de Vries, Assistant Professor, Department of Technology Management, Section Philosophy and Ethics of Technology at the Eindhoven University of Technology in Holland.

DR MARC DE VRIES HAS BEEN ACTIVELY INVOLVED within the international technology education community over a long period of time and was visiting New Zealand at the invitation of Professor Alister Jones, TENZ Trust Board Chairperson and Dean of the School of Education at the University of Waikato. He is Editor of the International Journal of Technology and Design Education and he and Alister are presently collaborating on the first International Handbook on Research and Development in Technology Education.

Discussion at the meeting with the Minister of Education centred on Technology Education as a worldwide issue. Technology education has now been introduced as a new learning area across a very large number of countries. In many other countries this already existing curriculum area has undergone drastic revision.

Marc observed that the common aim of technology education is now "to provide future citizens with the necessary knowledge, skills and attitudes to live in a technological society and to stimulate technological careers as a contribution to economic development. This means that technology education is primarily a contribution to general education, but it also can be regarded as preparatory for 'engineering' education."

Marc was able to reflect on the success that New Zealand has had in incorporating experience from other countries in its development of a technology curriculum in which there is a balance in the learning of concepts and processes related to technology. "What is fairly unique in the New Zealand approach is the combination of curriculum development, teacher education and educational research," he says.

Discussion focused both on the current vulnerability of technology education and on the need to work to ensure its sustainability. Marc pointed to research carried out over a 20 year period showing several countries that were in a good position in terms of technology education implementation having lost what had been built up due to inadequate ways of assessing the economic benefits of technology education.

"It takes more than a few years to construct a learning area that can have measurable effects in terms of, for example, enrolment in engineering related courses," he says. "And a change of government can impact dramatically – either terminating technology education completely or integrating it into other learning areas, which in many cases has the same effect as termination."

Marc emphasised his view that, for the future of technology education, it is extremely important that a research and development culture is maintained that supports the learning area.

"This is currently the case in New Zealand and for that reason the rest of the world's 'technology education eyes' are now on New Zealand. In New Zealand there is a unique opportunity to set an example internationally of how to develop a sustainable learning area that in the course of time will prove to have measurable benefits."

However he cautioned that "educational policy will be needed to guard and guide this".

Marc is keen to return to New Zealand and hopes to be able to participate in the next TENZ Conference to be held in Napier in October 2009.

71st ITEA International Technology Education Conference

Delivering the T & E in STEM

Designing programmes to deliver learning outcomes across Science, Technology, Engineering and Maths (STEM) is one of the hottest education topics in the USA.

“Technology education plays a critical role in helping schools deliver all aspects of STEM education to students with particular emphasis on the T and the E. The 2009 Louisville Conference comprises presentations that address the following important sub-themes or tracks. The discussions are sure to be of crucial importance to those interested in the field of technology and engineering education.”

TECHNOLOGY – Presentations on classroom activities, curriculum, instruction, or research with emphasis on teaching about aspects of the sectors of the designed world such as construction, communication, manufacturing, energy and power, transportation, medical, or agricultural and related biotechnologies.

INNOVATION – Presentations with emphasis on teaching about innovation as a major focus of instruction.

DESIGN – Presentations with emphasis on teaching about design as a major focus of instruction.



ENGINEERING – Presentations with emphasis on teaching about engineering concepts for technology educators.

STEM INTEGRATION – Presentations with emphasis on the integration of STEM content in the K-12 curriculum.

For those interested in presenting at the conference, the deadline for abstracts is June 15, 2008. Details are at www.iteaconnect.org/Conference/apptopresent.htm

The preliminary programme can be found at: www.iteaconnect.org/Conference/precon.pdf

TRCC places filling up fast

Course director **Brian Allen** is delighted to report that enrolments are rolling in for the TRCC *Gaining Momentum by Design* course being held in Wellington from 6-8 October.

The programme structure has been firmed up with confirmation of the three keynote speakers and the range of workshop presentations available.

“I’m excited at the range of presenters we’ve managed to attract and with many of the workshops being offered twice over the three days we’ll minimise the disappointment due to unavoidable clashes,” says Brian.

Keynotes will be given by **Elizabeth Osborne** from Top Mark Products, **Cliff Harwood**, National Professional Development Manager for Technology, and **Marlon Beyer-Rieger**, a young man who achieved considerable success in his technology and graphics courses at school and who, “will challenge your thinking about stakeholder feedback and client consultation”, says Brian.

Field trips include visits to TheNewDowse gallery, Massey and Victoria Universities, and a Fashion Trail – but Brian is still giving no clues on the venue for the course dinner on the Tuesday evening.

To view the programme and find out more about how to register visit the TRCC website at www.trcc.org.nz.

Senior academic vacancy

The Centre for Science and Technology Education Research (CSTER) at the University of Waikato invites applications for a Senior Lecturer/Associate Professor in Technology or Science Education.

Applicants must have a doctorate in technology or science education, or related disciplines, and preferably have experience and/or knowledge of school-based education. They will be expected to contribute to the Centre’s masters papers in technology education, and possibly also other papers, to supervise masters and doctoral thesis students in technology education, and to undertake technology education research, both self-initiated and externally funded through winning research contracts. A teaching qualification would be an advantage. Appointment at Associate Professor level requires an established high quality research profile including a strong publication record.

For more information on the teaching and research programmes in the Centre, visit: cster.waikato.ac.nz For academic enquiries contact Dr Chris Eames, email c.eames@waikato.ac.nz

Applications close on **Friday, 20 June 2008**.

Techlink update

UPDATED 'FOR PARENTS' SUBSITE

Techlink has recently up-dated its For Parents subsite. The comprehensive site includes pages on: what Technology Education is; why it's important; what students learn at each level; skills employers look for; and quotes from experts, students, and parents.

The information is available for download in PDF form so it may be used as the basis of your own Technology promotions.



There are also two stand-alone fliers that may be downloaded, printed off and distributed as required.

If you are keen to promote Technology to the parents of students in your school, direct them to www.techlink.org.nz/info-for-parents. Recently some schools have included this link in their school newsletters.

NEW BEACON PRACTICE CASE STUDIES

Memory Catchers

*Year 11 Technology – generic
Garin and Nayland Colleges*

Two teachers – one teaching Food Technology, the other Soft Materials – from nearby schools collaborated to produce this generic Year 11 Technology unit, based around the concept of 'memory catchers' – mementos of time and place and people.

The teachers successfully combined their experience and ideas to design a generic unit that focused on the underlying pedagogy, technological practice and philosophy.

Read more at www.techlink.org.nz/GIF-tech-education/beacon-practice/Food-and-Biological/CP803-memory-catchers

Stop-motion film parable project

*Year 10 Technology and Graphics
St Patrick's Rongatai*

Two Year 10 classes were asked to communicate the values of their school using film and a biblical parable. Because the project preceded a Term 4 control/mechatronics unit, robotics was used as an additional context. Two short (3-5-minute) films were made using animated puppets and stop-motion film techniques.

This case study highlights: the use of experts within the school, including students and teachers from different curriculum areas; the division of a class into groups based on student interests and preferences, with each group contributing to the whole-class project; interaction with stakeholders; communicating school values; building an understanding of ethics in society; and practicalities associated with cross-curricula programme planning and unit delivery.



Read more at www.techlink.org.nz/GIF-tech-education/beacon-practice/Electronics/CP805-stop-motion-film/index.htm

NEW TECHNOLOGICAL PRACTICE CASE STUDY

Hands-off Healing

Hands-off Healing explores the issues faced by ARANZ Medicare Ltd, the New Zealand company in developing the innovative SilhouetteMobile – a device that enables medical staff to accurately calculate the extent of and changes in body wounds.

Traditionally, medical staff gauged the healing process in deep wounds by placing an acetate sheet over the wound and tracing it, the results being measured against a grid. While being reasonably accurate, this method



was potentially uncomfortable for patients, and didn't measure the depth of the wound, which required filling the wound with saline or even dental moulding material.

ARANZ's alternative device measures the wound digitally in three dimensions, is small and easy to handle, collects data without causing the patient pain, provides accurate data output in real time, and is easy to keep clean and sterile.

Read more about the development of the SilhouetteMobile scanner at www.techlink.org.nz/Case-studies/Technological-practice/electronics/Hands-off-healing. This case study also includes a new feature that links case study material with the new strands of the technology curriculum through a series of focus questions – see www.techlink.org.nz/Case-studies/Technological-practice/Electronics/hands-off-healing/page7.htm

NEW STUDENT SHOWCASES

Water Sports Rack

Stewart McVinnie, Year 12, Mt Roskill Grammar School

In response to the project issue "Improving the Home Environment" and the problem of family members "concerned that small pockets of their home have been identified as bland, tired and often look neglected", Stewart decided to build a rack for sports equipment,



which was otherwise 'stored' on the floor of his father's garage.

Stewart experimented with mild steel and pipe bending. He set up a number of jigs to bend mild steel pipes, sometimes working alongside the school department's workshop technician. He researched and tested different steel-jointing techniques, including braising and MIG welding.

As a result Stewart's final solution was water sports rack that was both functional and sleek. Read more at www.techlink.org.nz/student-showcase/materials/stewart.htm

Street Luge

Ethan Shanley, Year 11 St John's College

Ethan's class was challenged to design, build, and race test a street luge, a wheeled sledge version of the Winter Olympic sport. The proposition was irresistible for Ethan.

After research, modelling, and testing, Ethan's final product was constructed of steel tubing and 3mm custom board. He attached wheels to three skateboard trucks which he had widened. The luge was capped off with a sharp black and red paint job.

Read more at www.techlink.org.nz/student-showcase/materials/ethan.htm



Food and Nutrition Programme

Krystal Va'a, Carmel College Year 13: Food Technology

Krystal's Food Technology Food and Nutrition Programme was sparked by the media focus on childhood obesity, malnutrition and the lack of nutritious food in some homes. She wondered about the nutritional awareness of children in poorer areas, and approached the principal of a local Decile 1 School and discussed the extent to which such problems occur, how schools deal with them and food programmes available to lower decile schools.

Krystal interviewed a girl and a boy from each level at the school, asking about the food they ate, their attitudes to food, and related points such as levels of activity and sleep patterns. She found that while these students had a general understanding of basic health and nutrition, they didn't often apply this knowledge to their eating habits.

Krystal decided to create a pilot programme to teach children to make healthy snacks and to be more independent in feeding themselves after school. Seven students from the school's after-school programme were selected for her programme, which ran for three afternoons a week over a month. making sandwiches from a range of fillings, and then wraps, as an example of using similar ingredients to make an alternative meal.

Read more at www.techlink.org.nz/student-showcase/food-and-biological/krystal.htm

Healthy Food with Krystal



TVNZ video archives

If you're looking for short technology related video clips that are topical, well presented, easily accessible and pitched at just the right level for use with students, then go straight to the video archive section on the TVNZ website.

Here are some examples of recent material that would quickly stimulate discussion in your classroom.



TECHNOLOGY APPLIED TO WOUNDS

This clip examines the hand-held device used to digitally chart the progress of wound recovery. It can be used to supplement the story told in the Hands-off Healing case study which has just been published on the Techlink website – see page 12. See: tvnz.co.nz/view/video_popup_windows_skin/1319731

SMART CARDS OF THE FUTURE?

This is one of the many short clips presented on the Breakfast Business programme which are available in the archives. It profiles 'Snapper the smart card of the future' which comes as a card, bracelet, ring or even as a memory stick and, it is claimed, will soon allow us to pay for things instantly and more cheaply. See: tvnz.co.nz/view/video_popup_windows_skin/1756414



PROTECTING WORKERS FROM NECK DAMAGE

This April Breakfast Business feature reports on a product developed in New Zealand called the Necrotech, created to help tradesman world-wide who needlessly suffer from work-related neck pain. See: tvnz.co.nz/view/video_popup_windows_skin/1731342

MOUSE MAKE-OVER

This clip features the story of a Christchurch inventor who has decided it's time for a mouse change. He has come up with two new "mouse" options for the laptop and tablet computers. See: tvnz.co.nz/view/video_popup_windows_skin/1714491

MORE...

The archives contain a wealth of broadcast content stretching back over a number of years. You can explore the material by visiting www.tvnz.co.nz





FUTUREINTECH AMBASSADORS ARE KEEPING busy with a number of student projects in technology. The Ambassadors play an important role as mentors, answering the students' questions and giving them pointers on how to plan their practice, and develop and evaluate their outcome.

Students at **Taieri High School** in Dunedin have a number of projects in the works for CREST, a national awards scheme for projects in science and technology. Futureintech Ambassadors **Jess Chaloner** and **Bhavneet Kaur** are acting as mentors for the teams. Jess is involved with projects including an amphibian bicycle, wind turbines, clean burning fuel for cars, and humane animal traps. "The kids are full of cool ideas," he says. "They're determined to make them work."

In North Auckland, students from **Westlake Girls High School** are preparing for the FIRST Robotics Competition. This yearly international competition requires students to design and construct a robot that will go head-to-head with robots from around the world. The school is hoping to have an entry for the 2009 competition, but in the meantime they need to learn the basics of robotics and computer science. Electronics Engineer **Spencer Travers** (pictured) from **Navman Wireless** is among a group of Ambassadors helping students on this project.

"The work we're doing now is mainly practice runs, kind of a robotics boot camp," he says. "We come in about once a week to tutor them in programming, mechanics, and game strategy. The students' response has been really positive. This is all pretty new material, but they're very motivated and interested, and it's working quite well."



In South Auckland, Ambassador **Ashley Vandermeer** from **New Zealand Steel** is working with Clevedon Primary School for their Transpower Neighbourhood Engineers Awards project to design and install adjustable basketball hoops for the school.

"It's about learning how to set a project goal and go through the proper process to achieve it," Ashley says. "We've assigned the students to a team and given them each a role. We're learning about timelines and gantt charts, and different ways to do research and process the information. It's a fairly new experience for the students, but they're all very keen."

NEW WRITER/RESEARCHER

Christine Linnell has taken over for Laura Fergusson as the Writer/Researcher for Futureintech. She recently emigrated from Nebraska, USA and has been living in Wellington for the past year. Previously she worked as a software engineer for ICT companies in America and England. She will now be using her insight to promote technology careers in New Zealand.

Contact Christine at clinnell@futureintech.org.nz.

Futureintech Facilitators



Rod Hare
North Auckland
 Mobile: 021 714 359
 Email: rhare@futureintech.org.nz



Angela Hart
Central Auckland
 Mobile: 021 479 892
 Email: ahart@futureintech.org.nz



Gay Watson
South Auckland
 Mobile: 021 479 802
 Email: gwatson@futureintech.org.nz



Margaret Brunton
Central North Island
 Mobile: 021 479 803
 Email: mbrunton@futureintech.org.nz



Jenny Dee
Napier/Hastings
 Mobile: 027 2907 937
 Email: jdee@futureintech.org.nz



Susan Weekes
Wellington
 Mobile 021 479 891
 email sweekes@ipenz.org.nz



Colin Bell
Christchurch
 Mobile: 021 479 890
 Email: cbell@futureintech.org.nz



Lynne Newell
Dunedin
 Mobile: 021 479 804
 Email: lnewell@futureintech.org.nz

