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Engaged professionals are good for business

Professionals engaged with their communities are people engaged with their profession says Chris Maguire, who shared his infectious enthusiasm for linking professional development with community engagement at INGENIUM's 24th annual conference, held in Wellington on 16-18 June.

"Volunteering benefits graduates in their personal development. Their interaction with the community makes the public more aware of the value of professional engineers in maintaining and improving the infrastructure on which they rely."

Water Resources Engineer Chris Maguire

CHRIS MAGUIRE, A WATER RESOURCES ENGINEER and project manager at global engineering and environmental consultancy MWH, is a firm believer in the importance of development for young professionals. He served for five years on the Graduate and Student Committee of the Institution of Civil Engineers Northern Ireland (ICENI) and now co-ordinates the Waikato chapter of Engenerate, the network for graduate engineers in New Zealand. Within MWH Global, he is the Asia Pacific Co-ordinator of the Young Professionals Group, which connects and supports graduates in branch offices worldwide.

He is also a strong advocate of social responsibility and community engagement, and an enthusiastic participant in MWH's Climate Change Commitment Education Outreach programme, which has reached 12,000 students in ten countries since it started in 2007. The programme is part of the third strand of MWH's commitment to addressing climate change; the others being working with clients to manage their carbon emissions and reducing the company's own carbon footprint.

"We went to communities," he says, "and explained that water doesn't just come down from the sky. We take it from rivers, we treat it and deliver it to your homes, then we deal with it afterwards." He believes that this message helps the public understand the importance of water conservation.

Chris has presented sustainability and water resources education to more than 200 students in the Waikato since he arrived in New Zealand 18 months ago. He also worked with Goodward School on their Transpower

Students at Goodward School in Cambridge proudly display their pledges and GreenLaces. Wearing the bright green shoe laces reminds them of their environmental promise every day.

Neighbourhood Engineers Awards project investigating how they might heat their school's swimming pool. "They had some great suggestions – solar water heaters, painting the pool black – these are six year old children and already they know so much."

How do professional development and community engagement fit together? Chris explains that "the modern young professional looks beyond internal training and uses a growing network of opportunities to meet their needs." He places the personal and professional development needs of graduates at the intersection of three main drivers. Professional motivation focuses on career advancement through the acquisition of skills. Motivation derived from society and the environment is driven by the desire to give something back and to feel part of a greater goal.

"This is the first generation that's been told from an early age that there are limited natural resources; that we can't just keep using them up. We can't go down the same pathway – we have to try a different way. Young professionals aren't just ready for change, they actively want it."

And at an individual level, graduates are motivated by the prospect of using professional development opportunities and networks – whether within an organisation or profession, or linked by a common interest – and to make connections and socialise. "Today's young professionals don't just have one network; they have many different, widespread networks," he says.

Participation in community outreach programmes can provide opportunities that meet all three drivers. Giving talks to the public and in schools develops presentation skills, which will be valuable as graduates progress in their careers. Sharing their knowledge with local communities not only meets the need to give something back but also helps them to situate their work projects in the context of wider goals.

Chris has signed up to Intersect, a social media website that brings together 'purposeful young professionals' who have a common interest in sustainability.

"It's making real connections, making real projects happen. It's not just engineers - there are people from marketing, finance, all sorts," he says. "There's a girl who writes comics and wants to engage with engineers to get story lines, so she can spread the message to a younger audience through comic strips."

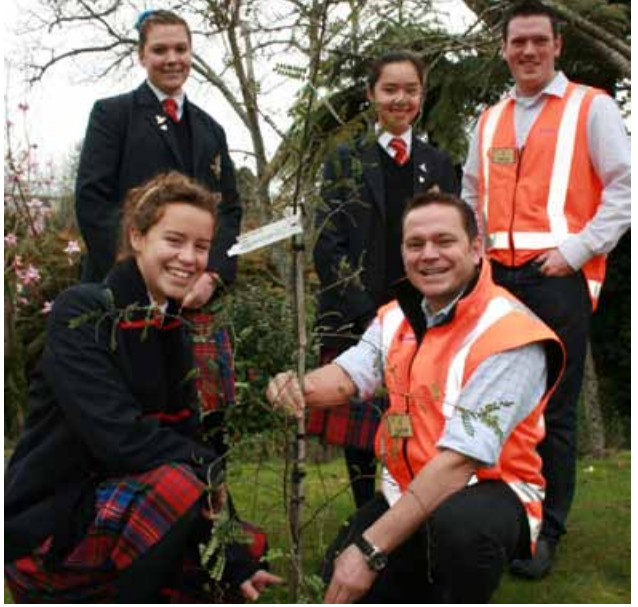
Why should the managers of young professionals support their participation in community engagement? Chris summarises the advantages as engage, educate, retain and recruit. "Engagement with their community leads to engaged professionals who are motivated and driven to achieve,' he says. "This sense of engagement is infectious and makes everyone want to get involved, driving change and revitalising organisations."

Community outreach activities are not only educational for the audience but provide an education in communication and negotiation. "For example, try explaining to a determined six year old that her idea for heating the school pool with chunks of lava isn't going to be implemented. You'll find that needs some solid negotiating and explaining skills," he says.

"Companies slashed their training budgets due to the recession in Northern Ireland. But what we saw was a huge jump in attendance at ICENI graduate seminars on Monday nights," he says. "Young engineers like myself said to themselves 'I'll go somewhere else to get the professional development I need to get chartered.' So make sure your graduates make the most of what's on offer through professional bodies."

Chris acknowledged that many New Zealand companies wonder why they should invest in professional development when their graduates are likely to leave to get overseas experience.

"It's quite simple: engaged professionals are good for business. Supporting your graduates' community engagement builds loyalty so there's a greater chance that they will come back to you with the skills and experience they've gained overseas. Or if you're a global organisation they're more likely to travel within your company. Not only that, when somebody is thinking of joining your organisation, engaged graduates are going to recommend you. So you start to build the best."



MWH Hamilton/Waikato Group Manager James Yearsley, Chris Maguire and students at Waikato Diocesan School plant a kowhai tree as part of the HALO project, which aims to increase biodiversity in Hamilton.

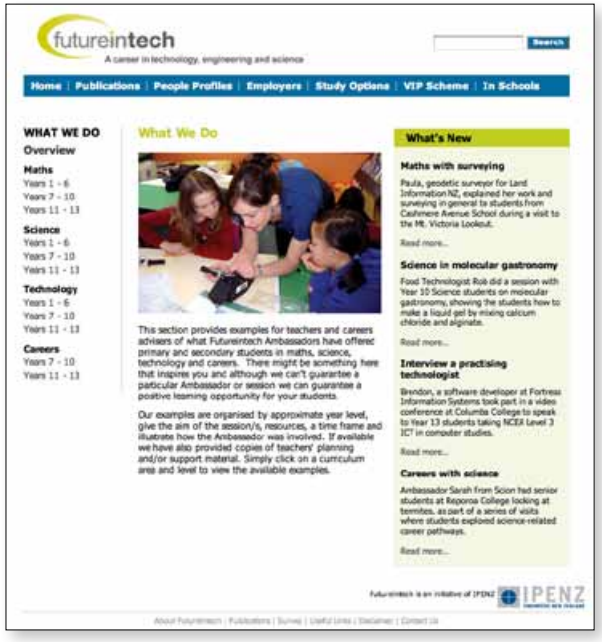
And finally, he says it makes sense to have a workforce that knows how to talk to people outside of their profession or specialty. This is particularly relevant as we move towards community-led development and greater public consultation on issues such as major infrastructure, water quality and genetically modified (GM) crops.

"In the aftermath of natural disasters such as the Christchurch earthquakes, it is especially important to have a large pool of professionals who can talk to the public and find out what they really need."

The paper that Chris delivered to the 24th Ingenium Annual Conference will feature in the next edition of Water*, the journal of Water New Zealand.*

‘What we do’ – new on Futureintech’s website

A new section on the Futureintech website gives examples of inspiring Ambassador sessions for primary and secondary students in maths, science and technology classes.



THE NEW ‘WHAT WE DO’ SECTION will be of use to Ambassadors looking for ideas for classroom visits, and should be help teachers understand what Futureintech activities they could have at their schools.

The examples are organised by curriculum area and year level, and describe what the Ambassador did and how it related to the students’ learning.

The link to this feature is now live on the homepage of our website **www.futureintech.org.nz**.

If you have any feedback on how we can make it more useful, we’d love to hear from you. Send any questions or suggestions to **enquiries@futureintech.org.nz**.

Below are a few examples of what you will find there:

Ambassador Paula Gentle, a geodetic surveyor at LINZ, used her surveying equipment to make mathematics relevant to Year 1-6 students from Cashmere Avenue School

Year 6 students at St Clair Primary School helped Ambassador Rei Ishikawa, a coastal scientist at CPG NZ Ltd, to demonstrate how waves form.

Beth Coughlan, an airworthiness engineer for the Civil Aviation Authority, used strips of metal and a variety of fruit to help Year 13 students at St Oran’s College understand corrosion.

Students from Murrays Bay Intermediate got suited up as part of ESR Senior Forensic Technician Michelle Lomberg’s presentation on collecting samples from crime scenes.

Dunedin City Council oceanographer Tom Osborn and helpers from Anderson’s Bay Primary School explored how gradients are used to transport drinking water around the city.

Ambassadors from Tait Radio Communications and Mitton Electronet mentored groups of Year 7 Technology students from four Christchurch schools challenged to build a battery-powered Christmas ornament that lights up and plays music.

New Central Auckland Facilitator

We welcome Julia Parker as the new Facilitator in the Central Auckland area. Julia replaces Fiona Barrow, who has returned to teaching. We'd like to thank Fiona for all the hard work she's done with Futureintech and hope she'll be requesting some Ambassador visits soon.

Julia is a trained teacher with experience teaching intermediate and technology classes, and has also been a computer consultant providing solutions for teachers looking to integrate ICT into their classroom practice.

"I've recently returned from Vietnam where I was the first Westerner to study shoe-making at the Ho Chi Minh City Industry and Trade College. I originally became interested in shoe construction when researching the manufacturing process for a technology unit," she explains.

New Writer/Researcher

We also welcome Madeleine Rashbrooke as the new Writer/Researcher for Futureintech.

Madeleine replaces Christine Linnell, who is leaving us to study journalism. We'd like to thank Chris for the great work she's done with Futureintech and wish her the best of luck with her future career.

Madeleine trained as a molecular biologist with degrees from Victoria University of Wellington (BA/BSc) and the Australian National University (PhD), and has research experience in Australia and the UK. More recently Madeleine worked in a marketing and communications role in the Cycling & Walking department at Transport for London. "After trying to persuade Londoners to ride bicycles, encouraging New Zealand students to consider careers in technology, engineering and science should be a walk in the park!" she says.

VIP scheme funding round closes soon

Futureintech provides funding for senior professionals from technology, engineering and science-based industries to spend up to three weeks in a tertiary institution. Their role can be teaching, advising on research and curriculum, or a mixture of both. The purpose of the VIP Scheme is to encourage on-going partnerships between industry and education.

Applications for the current round of funding close on Friday, 14 October 2011. Find out more on our website, at www.futureintech.org.nz/vip-scheme.cfm

Earthquake Fact Sheets from IPENZ


THE CANTERBURY EARTHQUAKES:

Answers to critical questions about buildings

Contents

IPENZ have added a new Fact Sheet to update their earthquake series. 'The Canterbury Earthquakes: Answers to critical questions about buildings' addresses questions related to the expected performance, and actual behaviour, of buildings during an earthquake. The PDF files of all the fact sheets are available for download at the IPENZ website: www.ipenz.org.nz/ipenz/forms/pdfs.

Upcoming lectures

2011 Rutherford Lecture:
How to Make Life from the Primordial Soup
Rutherford Medallist Professor Warren Tate of the University of Otago will speculate on RNA's role in the origin of life, and how understanding this molecule might help with the development of therapies for Alzheimer's Disease, HIV and Chronic Fatigue Syndrome.
18-28 July, Nelson, Dunedin, Wanaka, Rotorua, Palmerston North and Auckland. See www.royalsociety.org.nz/events/annual/rutherford-lecture/2011

Year of Chemistry: 'Plate of Molecules'
Professor Kent Kirshenbaum of New York University will give a free lecture-demonstration on the chemistry and physics of food. He combines science, food and showmanship - stretching ice cream and using industrial processes to turn cheese into airy delights.
10 August, Wellington. See yearofchemistry.org.nz/events/professor-kent-kirshenbaum-visiting-wellington

Year of Chemistry: Marie Curie Lecture Series
The Marie Curie Lecture Series is a year- long national tour of free public lectures by female New Zealand chemists in honour of Curie's Nobel Prize in Chemistry. Still to come: *'Promiscuous Proteins'* – Professor Juliet Gerrard talks about how proteins assemble into molecular machines (Timaru); *'Underneath the Periodic Table'* – Dr Nicola Gaston explores the beauty and complexity of the elements (Rotorua); *'From the Bottom Up'* – Professor Alison Downard showcases how we can make electrodes, enzymes and bugs work for us (Napier).
See www.royalsociety.org.nz/events/2011-year-of-chemistry/marie-curie-lecture-series

About Futureintech

Funded by NZ Trade and Enterprise, Futureintech is an initiative of the Institution of Professional Engineers New Zealand (IPENZ). Established in 2003, Futureintech is a practical attempt to increase the number of young New Zealanders choosing careers in technology, engineering and science – crucial sectors for the infrastructure and social and economic growth of the country.

Futureintech Ambassadors

Futureintech Facilitators around New Zealand work to develop links between schools and local industries. Central to this work is the recruitment of Ambassadors – young people working in technology, engineering and science who are trained by Facilitators to volunteer in schools. Their contribution includes giving presentations, explaining their work, supporting projects, providing a real-world perspective and demonstrating the practical applications of the curriculum. There are currently over 540 trained Ambassadors working with Futureintech, representing a wide variety of industries. Their support and that of their employers is greatly appreciated.

Futureintech partnerships

Futureintech maintains partnerships with around 300 companies, representing a diverse cross-section of New Zealand industry. Partners work with Futureintech in a variety of ways, from encouraging staff members to become Ambassadors to providing expert information for publications or promoting Futureintech to a wider audience. Futureintech's work would not be possible without their generosity and commitment.

Futureintech publications

Futureintech produces an ever-increasing range of print resources for teachers, students, careers advisors, caregivers and industry, all of which are available free of charge by request from head office.

www.futureintech.org.nz, a regularly updated website offering profiles of Ambassadors and their employers, a database of relevant tertiary courses and monthly regional news, is another key component of the initiative.

Futureintech's monthly newsletter **enews** is distributed in alternate months to schools and industries, and aims to ensure that all stakeholders are kept fully informed of Futureintech's activities and of the resources we provide.

Futureintech Facilitators

Futureintech's regional Facilitators promote and maintain relationships with schools and industry employers. This involves recruiting and training Ambassadors, advising teachers on how Futureintech can best support their programmes, arranging, planning and supervising Ambassador visits and distributing resource materials.

Facilitators are supported by Host Partners, who provide the office space which enables them to work remotely from the Wellington head office. Host partnerships ensure that Facilitators not only benefit from a collegial atmosphere but also have daily exposure to an industry-related workplace.

If your staff might be interested in volunteering as Ambassadors, or your business benefit from being involved in any way with Futureintech, please contact your local Facilitator to discuss how we can work together.

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