

Visiting Industry Professionals announced for 2007

Futureintech is delighted to announce the recipients of funding for the 2007 Visiting Industry Professionals Scheme – the initiative that encourages links between industry and tertiary institutions, by enabling staff to engage professionals with expertise relevant to a particular teaching programme.

Interest in the Visiting Industry Professionals (VIP) Scheme this year has been greater than ever before, and it gives us huge satisfaction to be able to offer financial support to all 11 applicants.

The VIP Scheme enables universities to provide a wider context to their courses, supporting academic principles with direct reference to their application in industry.

From the perspective of the visiting professionals, interaction with tertiary education allows them to have a direct impact on the preparation that future employees receive, ensuring that courses incorporate material that will be essential when graduates enter the workforce.

The Visiting Industry Professional may be asked to give a series of lectures, advise on curriculum changes, mentor students or otherwise provide an industry perspective.

Futureintech can provide a contribution towards travel or accommodation costs, or other expenses incurred, up to a total of \$35,000 a year.

Due to the number of worthwhile applications for the first round of this year's scheme Futureintech is unable to offer funding for further engagements in October, but we look forward to receiving further applications in March 2008.

In previous years the scheme has been commended by both the tertiary institutions concerned and the industry representatives offering their time, and we are confident that 2007 will be equally successful.

Lincoln University Applied Computing Group

Dr Paul Ashton, Project Leader at Tourplan, will assist in the development of a new paper in Web Application Development, through reviewing the proposed course content and collaborating with the course examiner in the development of projects and material. In addition he will deliver two lectures focussing on current industry practice and issues.

University of Otago Department of Information Science

Peter Chappell, Chief Technology Officer, MediaLab NZ Ltd
Dr Murray Milner, Principal Consultant, Milner Consulting Ltd
Dr Malcolm Shore, Technology Strategist, Telecom
Prasan De Silva, Enterprise Architect, Mobile, Telecom

The above panel will spend a day providing an industry perspective for a brainstorming session on proposed new ICT courses. They will also participate in a Computer and Information Science seminar series and meet university staff, postgraduate and senior students.

University of Canterbury Chemical and Process Engineering

Dr Max Kennedy, General Manager of Meat Biologics Research Ltd, will assist the department in reviewing their bioprocessing stream: evaluating course content, delivery, practical components and whether the courses meet the needs of the bioprocessing industry. He will also give a series of lectures

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on medium formulation, cGMP, New Zealand regulations and the commercialisation of bioproducts.

**University of Auckland
Department of Civil and
Environmental Engineering**

Dr Alastair Barnett, Managing Director of Hydra Software Ltd, will be involved in curriculum development, advising on applied research and developing course material relating to computational hydraulics and flood risk management. He will also contribute to and teach in a new course on hydraulic modelling, enhancing it with an industry perspective.

**Massey University – Institute of
Technology and Engineering**

Keith Colson, Software Manager at NextWindow Ltd, will give three lectures on robotics, mechatronics and software engineering, and help students and lecturers with hands-on techniques.

**University of Waikato
School of Engineering**

Tony Carnovale, Technical Services Manager for Schneider Australia, will give a series of lectures to final year undergraduates on industrial control, as well as a lecture to staff and local industry representatives on trends in

industrial automation. He will also be involved in discussions with staff on a proposed mechatronics programme at the University.

**University of Waikato
School of Engineering/
School of Science and Engineering**

Kang Lee, Leader of the Sensor Development and Applications Group, National Institute of Standards and Technology, USA, will present three lectures to students of Microprocessor Applications, Engineering Design and Application Specific Integrated Circuits, as well as giving a public lecture on a topic of his choice.

He will meet staff and postgraduate students to discuss sensor networking, intelligent systems building and future technologies in MEMS and nanotechnology. as well as suggesting possible curricula upgrades and will give a half-day workshop on "A new paradigm in sensor connectivity: smart sensor networking".

**University of Waikato
School of Engineering**

Paul Bosauder, a Senior Analyst at Matrix Applied Computing Ltd, will build on last year's VIP scheme which enabled the School to identify the appropriate software for teaching and research. He will teach students

the applications of ABAQUS software in solving engineering problems in the areas of stress analysis, vibration and heat transfer, while explaining common mistakes and the guidelines of good practice.

**University of Canterbury
Department of Civil Engineering**

Warwick Banks, Technical Manager, CHH Woodproducts, will deliver lectures for the courses Design Studio 1; Timber Engineering and Advanced Timber Engineering, in addition to reviewing and assessing students' projects and providing advice for academics and PhD students.

Warwick was asked to return for this, his second, year by Course director Massimo Fragiaco saw a wide impact through last year's involvement:

"Students were more interested in the course, which means better student survey, better word of mouth, more students enrolled in this and in other courses inside the Department, more money available, and in the end more benefits for New Zealand.

"Mr Banks was also able to give some directions on research, which means research projects are more relevant for the industry, there is more likelihood of getting funds for research, and it improves the reputation of the Department."



**Mike Lunnon, Civil Engineer
VIP at Eastern Institute of Technology (EIT), Napier**

Mike Lunnon, a civil engineer with over 25 years experience in major projects around the world, taught second third year courses as part of his recent VIP work with the Institute. His five lectures covered: the principles of good project management; examples and analysis of real projects that were both successful or which had failed in some way; and the ways in which information is researched and used in a professional engineering business.

Mike found the teaching part of his visit fascinating, as it gave him a chance to look back at the work he had been involved in from a fresh and critical perspective. "It is something we don't normally make enough time for as we tend to move straight onto starting the next project."

As well as lecturing, Mike also prepared a case study assignment on the the initiation and development of a winery complex for project management students – a project particularly relevant to the Hawke's Bay region.

**University of Canterbury
Department of Civil Engineering**

Peter Callander, Director, and Fiona Cox, Senior Engineer, both of Pattle Delamore Partners Ltd, will assist in the teaching of a one-semester course, Ecological Engineering 2. The students will learn about actual projects worked on by PDP, and the processes of client consultation, technical designs and

lessons learnt. The students will also work with individual real world case studies prescribed and assessed by Mr Callendar and Ms Cox.

**University of Canterbury
Department of Civil Engineering**

Martin Wootton, Senior Fire Engineer for Beca Fire International, will introduce students of the Masters in Fire Engineering to the current

fire design environment, along with building descriptions and plans. In the second three-day block of the course he will critique the formal presentations given by students and facilitate peer review of design projects. He will remain in email communication with students outside these time blocks, and will review written assignments when submitted.

Raising the profile of the professions

Through initiatives such as Futureintech, key industries can make an enormous difference to the way they are perceived by students, the employees of the imminent future.

Students frequently have a clear impression only of the professions which they have directly encountered, such as teaching and medicine. To attract them in the numbers necessary for New Zealand's continuing development into technology, engineering and science related fields, industries have to ensure that their purpose and practices resonate with young people.

Futureintech is able to ensure that industries are given a voice in schools. Our Ambassador programme enables industries to represent themselves using enthusiastic young employees to whom students can relate without difficulty. Ambassador engagements link directly with the school curriculum so that students are aware of the subjects essential to a particular career path, but can also see the practical applications of sometimes abstract concepts.

This provides students with a far greater basis on which to make the life shaping decisions of what to study and what careers to consider. At the same time it gives industries the opportunity to place themselves in the consciousness of young people, increasing their future employee base.

Without a higher profile the industries which maintain the nation's infrastructure and economy will find it impossible to recruit the qualified staff they need, It is in the interests of the whole of New Zealand to support the publicising of the need for more graduates qualified to enter the

workforce in these areas.

In addition to encouraging employees to volunteer as Futureintech Ambassadors, engineering firms can broaden students' understanding of the role of engineers by participating either in Get Alongside a Careers Advisor or the Transpower Neighbourhood Engineers Awards. Both of these allow engineers to demonstrate the impact of their profession on everyone's lives.



Futureintech Ambassador and Manukau City Council civil engineer Nick Jones helping Year 6 Papatoetoe East School students with their Transpower Neighbourhood Engineers Award project – creating an amphitheatre. By measuring the slope of the land, students were introduced to the practical applications of maths in land surveying.

Regional round-up

A quick look at just a few of the many recent activities of our regional facilitators...

North Auckland

Two Ambassadors from Auckland Regional Public Health discussed HACCP with a Year 13 food technology class at Carmel College.

Scientists Kanchan Sharma and Kylie Legae discussed safety procedures and causes of food poisoning, dramatically illustrated by genuine examples of contamination including needles, mice, finger nails and rat droppings.

Central Auckland

Natalie Macbeth, a food technologist from Nice and Natural Ltd and Futureintech Ambassador, has begun an ongoing project with the three most junior years at Meadowbank School. Using ingredients generously donated by the company, the children will design and make their own muesli bars, including packaging. The project will be supported by Natalie throughout, and she will eventually judge the results.

South Auckland

See photo and caption on page 3.

Hawke's Bay

Mechanical engineer and Futureintech Ambassador Andy Gunson, from Transfield Worley NZ Ltd in Hastings, discussed his career with students in Years 12 and 13 at Karamu High School. The students gained an understanding of mechanical engineering, enlivened by anecdotes from Andy's own experience.

Central North Island

Carter Holt Harvey Pulp & Paper, Kinleith, hosted a student from Forest View High School for five days over the school holidays through the Gateway programme.



Futureintech Ambassador Andrew Congalton, from Engineering Design Consultants Ltd, working on a Transpower Neighbourhood Engineers Award project to design and make a fitness trail with students at Browns Bay Primary. Here Andrew is helping students work out how high to make the equipment after measuring the heights of existing equipment. Students learned a lot about measurement, units of measure, rounding and averaging, but also about working as a group and sharing the glory jobs (climbing to the top of things). Andrew was a former Browns Bay student and the students found out a few stories about him, which added to the fun.

The Year 13 student was looked after by Futureintech Ambassador and chemical and process engineer Tracey Harrington, and was able to gain a thorough insight into the working practices of engineers.

Wellington

Futureintech Ambassador Industrial Research physicist Oliver Thompson met staff at Wainuiomata High School to plan support for textiles students and work out how his industry perspective can best be put to use. His research testing techniques will be discussed with students to help them develop a strategy for testing fabrics.

Christchurch

Several Futureintech Ambassadors met delegates at the New Zealand Association of Science Educators workshops for primary school science teachers. The Ambassadors described the possibilities of their involvement in the classroom, and demonstrated themselves to be an interactive resource.

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