

STOP PRESS: Hot off the bush telegraph, we are able to announce that Camilla has reached the finals of the **NZ Young Engineer of the Year Award for 2011** and extend our best wishes for the final selection process.

Inaugural ACE Scholarship Winner: Camilla Gibbons

In June 2011, Camilla Gibbons was awarded the inaugural ACE 'Women in the Built Environment' scholarship. The scholarship will cover study fees for the Dip MEEC course which she is planning to start in September 2011 in Christchurch. Camilla is originally from the UK and moved to New Zealand at the start of 2008. She is an Engineering Geologist, currently working in Christchurch.

After first studying Geology to Masters level, she started working for Mott MacDonald in the UK as a Geotechnical Engineer in 2005. After three years of working on various highways projects, Camilla initially moved to New Zealand to undertake a short secondment with Aurecon and has since permanently relocated to New Zealand with Christchurch as her base.

Camilla has enjoyed working on many projects both here and in Australia incorporating landslides, large tunnels, industrial buildings, sub-divisions and more recently rock falls. If Camilla had any doubts about staying in Christchurch, a few earthquakes have made sure that her skills are in high demand. She suggests that there are not many engineering geologists who would leave Christchurch now!

Since Aurecon's formation from Connell Wagner, Africon and Ninham Shand in 2009, the company has changed dramatically.

Camilla is keen to study for the Diploma to help her to gain the skills required to progress in her career. The timing of the Diploma in association with on-going internal change provides Camilla with new opportunities to be able to make a significant contribution in shaping the future at Aurecon.



Hanging on a rope inspecting earthquake damaged cliffs for a day job might suggest Camilla spends her off-duty hours in less energetic pursuits. Not so, as weekends will find her engaging in a wide range of energy sapping outdoor adventures!

Recently Camilla has been heavily involved in the earthquake recovery work in Christchurch. Camilla lives in the Port Hills herself and starting the morning after the quake in February, she assisted Urban Search And Rescue (USAR) Geotechnical Engineers to undertake the initial geotechnical inspections and landslide monitoring.

Since then Camilla has managed Aurecon's work on rockfall mapping, assessment and remediation in the Hills for the City Council. In addition, she has worked closely with geologists from GNS to monitor, map and investigate one of the large landslides in the area.

20% MORE PRODUCTIVE BY 2020!

Over the past decade established indicators have shown significant slippage in the productivity of the New Zealand construction sector while the same indicators show international trends moving in the opposite direction. Over that period we have uncovered major quality issues, particularly around weather tightness, and have come through one of the most volatile 'boom/bust' cycles we have seen. **It has been quite a ride!**

In 2009, a Ministerial taskforce was set up to consider the question of productivity. Talk 'productivity' to a New Zealand construction practitioner and as often as not it will evoke the question "do you think we're lazy?". However, the dedication and industry of New Zealand's construction workforce was never doubted by the taskforce which looked to the bigger picture for the answers and encompassed client, designer, constructor and user in their thinking. Four clear themes emerged.

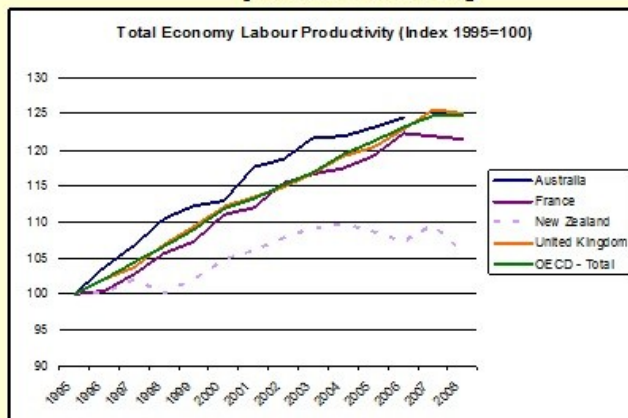
Before we can successfully solve problems, we must be able to define them. Accordingly we must develop a very good appreciation of what the real issues are and at what point in the construction process they are best tackled.

Skills are a cornerstone in the productivity area. There is a need to link traditional skills with good supervision and leadership but also to build an integrated long term career pathway which is widely recognised and utilised.

The way we procure our projects is a significant factor. The 'cost of cheap' is normally a productivity cost and often has a whole of life dimension.



New Zealand's challenge is to lift our productivity



Building and Construction Sector
Productivity Partnership
Establishment Board

New Zealand lags behind in design and construction systems, process and technology. Some see this as an issue of scale but the taskforce did not see this as the only issue.

Publishing of the taskforce findings was the catalyst for setting up the Productivity Partnership. This is a joint venture between the Department of Building and Housing, BRANZ, BCITO and BETA as industry training providers, and Industry to build a platform of knowledge for use by all those who have a role in the built environment and to influence behaviours both in Government and the private sector.

The Partnership Establishment Board comprising established Industry leaders and joint venture representatives was established 8 months ago under Chair Bill Smith. Since then four workstreams covering, not surprisingly, research, skills, procurement and construction systems have been formed and are currently actioning work plans. Skills recently launched its strategy for

Industry consultation. The partnership will very shortly be publishing a roadmap document for wide distribution which lays out how it will interact with Industry to make the required changes. This will signal the end of the establishment phase.

The partnership is committed to a 20% increase in productivity by the year 2020 and Constructing Excellence (NZ) is supporting the partnership in every sense. We are committed to seeking the same step changes and are working with the partnership to help achieve this. Directors, Trevor Kempton and Amanda Warren have been independently appointed to roles within the partnership as programme manager and procurement workstream member respectively while Peter Cunningham as Chief Executive of the Construction Clients' Group is keen to ensure that there is a high level of collaboration established between the CCG and the partnership.

"This is not the time for reinventing the wheel" according to Peter.

If you want 'normal', don't apply!

I'm Stewart Pike and have just kicked off with Cohort 9 on my way to completing my DipMEEC with the Academy of Constructing Excellence.

When I left school I knew I definitely didn't want a "normal job"! I headed for the mountains in Wanaka and Queenstown training as a mountain guide and working as a rafting guide. Even after a number years and many different jobs, including the memorable one, as a submersible pilot in Fiordland, I was frustrated so I headed off overseas in search of adventure and new challenges.

I needed money to travel so I worked as a carpenter for a while but this had only been a good way to get some money to fund the next trip away. But then I was employed on the London Home Office Project with Bouygues; my first experience of 'real' construction. The leadership was motivational and the project was well organized. I was impressed at what can be achieved by a group of people when they put their minds to it. Something was cooking!

Now having being back in NZ for some years; I am working for Naylor Love as a Project Manager, I have found the same fit at Naylor's as they embrace a large number of the things that underpinned Bouygues success.

Before joining Naylor Love I looked at many leadership approaches, the one that really sat well with me was the Outward bound/ Kurt Hann approach to learning and leadership. Having completed both the 3 week programme and the outward bound staff selection programme; I often draw on these experiences.

I am looking forward to further increasing my learning during the Diploma of Managerial Excellence in Engineering and Construction, looking at subjects such as leadership, excellence, business strategy and on a bigger scale, allowing me to find my place where I can best influence the construction industry.

I still find time to travel, chasing adventures and best of all I have managed to avoid getting a 'normal' job.



Stew making friends with the locals during a recent trip across India.

Just in case you didn't know.....

Many of you will have noticed that our ACE News has evolved issue by issue.

Coverage of general industry topics has been increasing and we have now decided to rename it CENZ News to reflect this. The Academy for Constructing Excellence is the educational arm of Constructing Excellence (NZ) and its activities will continue to feature prominently throughout the newsletter. However, we will be widening coverage to include news, views and reviews from the other CENZ programmes as well.

For those readers needing an introduction, Constructing Excellence New Zealand is a unique consulting organisation working with a client base across all enterprises involved in creating and maintaining New Zealand's built environment.

Our ambition is to enable those developing New Zealand's built environment to lead the world.

Our small specialist team has comprehensive international experience coupled with an intimate understanding of the New Zealand scene. We use this to advise and support performance measurement and continuous improvement programmes with a wide range of clients from project initiators to constructors. Through our Construction Clients' Group network we showcase best practice and, of course the Academy for Constructing Excellence prepares tomorrow's Industry leaders.

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The Future is BIM - Auckland lads lead the way!

Building Information Modelling or BIM brings with it new opportunities for collaboration and productivity gains. The technologies that underpin BIM have their roots in shared, structured information which can be used up and down the value chain.

BIM modelling can extend from core 3D dimensional applications by adding dimensions covering time, build cost, lifetime cost and even safety. Depending on the sophistication of the project, an appropriate selection of dimensions will give all stake holders virtual vision of the project's critical parameter in real time.

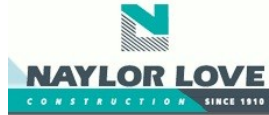
BIM is most powerful in detail coordination and in assessing the effects of and then managing change. In these areas it can deliver massive time and cost benefits around re-work and ensuring that exceptions receive the same level of analysis as the original build proposals.

The recently released British Cabinet Office's Construction Industry Strategy paper places BIM at the centre of future Industry developments.

Clause 2.32 of the strategy states that *"Government will require fully*



from left Tim West, Darrell Edwards and Danny Hope.



collaborative 3D BIM as a minimum on all significant projects by 2016".

A Client BIM Mobilization and Implementation Group has been set up and an implementation plan is currently in publication. We look forward with interest to see what developments may be applicable in New Zealand's drive to increase Industry productivity.

Three young Auckland BIM practitioners and their companies are leading the way in New Zealand.

BIM managers Tim West from Naylor Love, Darrell Edwards from Mainzeal and Danny Hope from New Zealand Strong have taken a collaborative approach in forming a BIM user group. They all work on a common platform and share information on functionality and application of the technology in a construction environment.

They are passionate about their craft and excited by the fact that BIM is still a sunrise technology.



Another Graduate!

Al Christ, member of ACE Cohort 4 at his recent graduation with Amanda Warren, ACE Director and course tutor.

Al, a champion home brewer, may just be reflecting on the quality of the contents of that green bottle!

Project Turnaround for Fulton Hogan using Last Planner

Amongst Constructing Excellence's arsenal of business improvement tools is Last Planner; a programming tool which has had considerable use in the UK, USA and Australia but which has had only limited use in New Zealand over the last 5 years.

Over those 5 years it has proven extremely valuable as an end to end programming medium but also as a project turnaround tool where other programming techniques have proven inadequate.

Last Planner turns traditional programming 'inside-out' working backwards from the completion date and then determining the constraints we need to manage today to achieve it. This differs from the traditional approach of working forwards and determining what needs management 'at the end'. This is a subtle difference in philosophy but one which can make an extraordinary difference to project performance.

Last planner has other powerful features which ensure that programme is deeply integrated in the thinking of all stakeholders.

- It is truly collaborative, involving all stake holders and most importantly the supply chain in its setup.
- It is the central focus of all project coordination forums. Consideration of all project issues radiates from the Last Planner framework.
- It includes a structured but efficient approach to 'look-ahead' and constraint management.
- It includes performance measures which can be applied to the integrated team and to individual stakeholder performance.

Constructing Excellence can provide comprehensive training and project support around the use of Last Planner. Recently we were able to assist Fulton Hogan on their Selwood Road Bridge Replacement project. Then Structures Manager Juan Pretorius explains:

"After agreeing the baseline program in December 2010, a combination of events involving a number of stakeholders generated an apparent 4 month overrun of our program. Naturally we could not accommodate this. During one of our Project Review meetings, a member of the review panel suggested that we explore Last Planner."

"My manager and I attended a Lean Construction event which incorporated Last Planner and got a good appreciation of how the system worked. We reported back to the project team and convinced them that the project would greatly benefit from its implementation."

After a full day workshop, we had identified opportunities in the construction program and reduced it by 2 months.

The weekly planning sessions require a lot of concentration and discipline. Our performance scores (PPC) rated between 40 and 60% in the first month; well below that at which project success is normally assured. With follow up coaching and a bit more familiarity, our weekly coordination meetings started to flow a lot better and our PPC scores started climbing. In week 9 we broke through the 80% barrier and had managed to claw back an additional 4 weeks of program. The greatest testament to our success came straight from the horse's mouth when one of the ground staff commented that "management seems a lot more organised now"

As I report, we are currently a third of the way through the program and only 4 weeks behind schedule. The team is eagerly looking forward to the next workshop so we can set even leaner targets and finish well ahead of the baseline."



Selwood Road Bridge Replacement Project

CENZ News thanks Fulton Hogan and Project Manager Hans Hooykaas for sharing this project experience with us.



Facebook more important than work!



Dave Fulbrook, partner in eCubed Building Workshop Ltd shed new light on sustainability around building design for those who attended July's CCG meeting in Auckland.

Starting his presentation with a range of publicity photographs of impressive finished buildings, Dave asked us what was missing. The answer, while not immediately obvious to most of us was 'people'. It was true. When showing off our past project achievements, we rarely portray the building in use. The users get in the way!

Dave linked this phenomenon to a strong design culture which manifests itself in what is created. On the other hand, he argued strongly that the most deeply seated sustainability benefits lie in the adoption of a performance culture.

A performance culture provides for design around people based solutions rather than solutions guided by traditional real estate values. Dave cited the fact that enterprises are becoming smaller with 97% of New Zealand businesses employing less than 20 people. However, he observed that conceptually most developments, with some notable exceptions, didn't reflect these changes. To do so meant designing from the 'inside out'.

People based solutions focus on how people feel in an environment. Initially, people react physiologically. Early impressions can be a reaction to novelty around a design solution and by definition may not be sustainable.

However, after about a year users describe a range of cognitive outcomes which can extend to wellbeing, mood, likes and dislikes. It is this information which is important in fine tuning the building's operating systems and which is the basis

upon which productivity as a function of the environment can be assessed.

The eCubed team has developed a tool called iEQ to take the cognitive and transform it into quantitative information with which to rate environments from a user perspective. This tool rates the performance of the building for two years or more after first commissioning.

It may have commissioned to specification, but the longer term experience of users is the much more significant parameter in maximising the productivity of the environment and the flow-on whole of life returns.

Dave cited the Meridian Energy offices in Wellington as an excellent example of the advantage a performance culture can leverage. An iEQ assessment rated their former premises at around -6% and the new building, having had the benefit of two years 'aftercare', was rated at around +9% giving a 15% productivity return.

iEQ assessments of some existing buildings can reveal surprising results. The Canterbury University computer science and mathematics block designed 16 years ago by Architectus with Ove Arup as services Engineers and Naylor Love as Contractors has a productivity rating of +10%; the highest currently attributed to any New Zealand building. Dave Fulbrook led the Ove Arup project team and this rating has given him much retrospective satisfaction. However he hastens to add that many of the spacial features incorporated by Architectus are significant in the very high user satisfaction.

Surveys show that for many in the 'social media' generation, Facebook is more important than work. Productivity has never faced such a threat before. This brings performance culture centred design into stark perspective!



Computer Science and Mathematics Block at Canterbury University



It's been a busy year for the Construction Clients' Group to date. The current business plan was signed off by the steering groups and we are continuing to deliver our scheduled programme of the events in Auckland and Wellington. These are attracting a wide range of speakers and we will be reviewing selected presentations in CENZ news.

After consultation with our members in Christchurch we took the decision to postpone the South Island programme until November and have replaced the programme with a series of visits to the region to meet with our members as they plan to respond to the challenges of the EQ assessments and rebuild as well as the difficult circumstances all Cantabrians have faced since last September. Our support and guidance will continue to be offered to our friends and colleagues in Christchurch.

In other news, we have launched a client guide to Health & Safety in collaboration with SiteSafe and the Department of Labour; a task group of our members produced the CCG response to the Auckland Council Spatial Plan (details of the response can be found on our website); and we have continued to offer support and provide guidance to the Productivity Partnership which will continue to have benefits to our members across our 3 regional centres. We are currently working with NZ Green Building Council to develop a client guide on Sustainability.

Finally, I would like to bring your attention to the Productivity Partnership's Built Environment Skills Strategy that was launched for industry consultation on the 29th June. We are delighted that the role of the client is highlighted in the skills strategy and that the CCG is referenced as a key stakeholder throughout the strategy. We encourage our members to read through the strategy at www.buildingvalue.co.nz and offer your views individually.



'I look forward to meeting you at a next CCG event in the near future.'

**Peter Cunningham, Chief Executive
New Zealand Construction Clients' Group.**

Constructing Excellence New Zealand is a unique organisation working with a client base across all enterprises involved in creating and maintaining New Zealand's built environment.

Its ambition is to enable those developing New Zealand's built environment to lead the world.

Its small specialist team has comprehensive international experience coupled with an intimate understanding of the New Zealand scene.

Demand for Constructing Excellence's services is rising and we are keen to bring additional talent into the team. An ideal candidate will have an Industry relevant tertiary qualification, enough experience to have discovered the potential for transformational change in the sector, and the passion to play a direct role in achieving it.

This position is initially an Auckland based developmental role. Specific continuous improvement and best practice knowledge is not essential. The successful candidate will support the work of the senior consultants but with a view to taking on sole charge responsibilities at the earliest opportunity.

**Job description and further general information is available from
Managing Director Tim Warren.**

Phone: 095757670 Email: tjwarren@constructing.co.nz

Applications close on: Friday 23rd September 2011

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**CONSTRUCTING
EXCELLENCE
IN NEW ZEALAND**

Cohort 8 Christchurch

2011 BLOCK 1				2012 BLOCK 2		
Sept 22 nd & 23 rd	Oct 20 th & 21 st	Nov 16 th & 17 th		Mar 22 nd & 23 rd	Apr 19 th & 20 th	May 24 th & 25 th
Course Outline	Excellence	Leadership	Risk Assessment (Integrated Teams)	Business Strategy	Performance Measurement	Customer Relationship Management (CRM)
Excellence	MBTI	Communication Skills	Risk Management	Finance	Perf. Meas.	Managing Change
						Customer Relationship Management (CRM)

2012 BLOCK 3			2013 BLOCK 4		
Sept 27 th & 28 th	Oct 25 th & 26 th	Nov 22 nd & 23 rd	Feb 21 st & 22 nd	Mar 21 st & 22 nd	
Project Feedback	Supply Chain Mgt	Collaborative Working	Lean Construction	Team Building	Project Review
Supply Chain Mgt	Integrated Teams	Continuous Improvement In the Supply Chain	Leadership Skills	Project Review	

Note: Modules and dates are subject to confirmation.

Cohort 9 Auckland

TERM 1 2011						
June 23 rd & 24 th	July 28 th & 29 th	Aug 25 th & 26 th	Sept 29 th & 30 th	Oct 27 th & 28 th	Nov 24 th & 25 th	
Course Outline	Excellence	Leadership	Business Strategy	Performance Measurement	Customer Relationship Management (CRM)	Risk Assessment (Integrated Teams)
Excellence	MBTI	Communication Skills	Finance	Perf. Meas.	Managing Change	Customer Relationship Management (CRM)
						Risk Management

TERM 2 2012					
Feb 23 rd & 24 th	March 29 th & 30 th	April 26 th & 27 th	May 24 th & 25 th	June 28 th & 29 th	
Project Feedback	Supply Chain Mgt	Collaborative Working	Lean Construction	Team Building	Project Review
Supply Chain Mgt	Integrated Teams	Continuous Improvement In the Supply Chain	Leadership Skills	Project Review	

Construction Clients' Group Coming Events...

28th Sept 2011, 8:30 to 12:30pm - WELLINGTON

Health & Safety

26th Oct 2011, 8:30 to 12:30pm - AUCKLAND

Productivity Partnership Update