

# TALENT SPOTTING

This year's shortlist for the Young Geotechnical Engineer Award suggests there is a rich vein of young talent coming up through the ranks and interviews with each of them suggests the judging panel had a tough deciding on a winner. **Jon Masters** reports.

Selecting winners in almost every category of the GE Awards was tough, but one of the most challenging categories for the judging panel is the Young Geotechnical Engineer of the Year. The talent and enthusiasm of this year's under 30s who made the shortlist made the deliberations and decisions as hard as ever.

Each of the seven candidates have their individual merits and wherever they end up, each is clearly a future leader and the judges congratulate them all on getting this far and having achieved so much already. Here, in alphabetical order, are brief profiles of the shortlisted engineers, which demonstrate the calibre of this year's entry.

## Jenny Austin, Arup

For her age, Jenny Austin has already packed a lot into her professional life so far, including a 15-month stint working in Singapore. "It was an intense period for me there. We were working on some really high-profile projects and doing some very complex work, which was great. Sometimes the more challenging experience is the most rewarding," she says.

This was for Austin's employer Arup, the company she has worked for since securing a nine month pre-university placement at the firm's London Fitzroy Street headquarters in 2001. From Chessington in Surrey, Austin studied civil engineering at Imperial College with sponsorship support from Arup and she was back at Fitzroy Street each summer to help pay for her studies.

Then a matter of months after graduating she was on a flight to Singapore as Arup sought to bolster its office there in readiness for upcoming infrastructure and buildings work. This led rapidly to a position of senior geotechnical engineer and a leadership role for buildings projects in Arup's Singapore office.

*Jenny Austin: "It was an intense period for me in Singapore. We were working on some really high-profile projects and doing some very complex work. Sometimes the more challenging experience is the most rewarding."*



Now back in the UK and working within a far bigger team of over 100 geotechnical engineers and geologists in Fitzroy Street, Austin is working on a large residential project near Finsbury Park in north London. This involves a lot of liaison with Network Rail and London Underground. "It's a nice step for me from Singapore, maintaining a level of responsibility," she says. One suspects she has an eye on more overseas opportunities in due course, however, if she can do this with Arup. "It's a good company to work for," she says. "They're nice teams to work in."

## Chris Campbell, Cementation Skanska

For graduate engineer Chris Campbell, opting for a career in geotechnics has been the result of academic interest in soil mechanics combined with recognition of opportunity in foundations engineering. "I married the two up and realised that a specialist path could give a modest acceleration, more of an overview from working

within smaller project teams and a quicker route to project management," Campbell explains.

Campbell joined Cementation Skanska's graduate training scheme after graduating from the University of Edinburgh in 2009. Since then he has had the opportunity to gain experience on a number of interesting and challenging projects, all of which have been in London, he says. Campbell clearly has no intention of altering from his chosen path. He is aiming to sit his Chartered Review in autumn this year and after commuting from Leeds for the past three and a half years, will soon move to London, partly in recognition of Cementation's concentration of workload there.

Perhaps his most rewarding project experience so far, in terms of its scale and challenge overcome, he says, has been the 5 Broadgate office development in Shoreditch on the outskirts of the City of London. "I managed about half of this project in terms of value. We had a late change to deal with – originally we had six hand-dug 2m diameter 40m deep mono piles specified, but as the job progressed people started thinking of better, safer and more

sustainable ways of doing it. What we came up with was columns on pile caps founded on rings of contiguous mini piles. The challenge then became one of logistics due to the location in central London."

It is solving problems that seems to present the most rewards for Campbell. "I certainly miss that when away working in a design office," he says. "Having to respond to problems on a daily basis can have its drawbacks, as it's then often difficult to get done the things planned for the day, but it becomes a matter of learning how to delegate, to know your limits and to fight for the support you need from others."

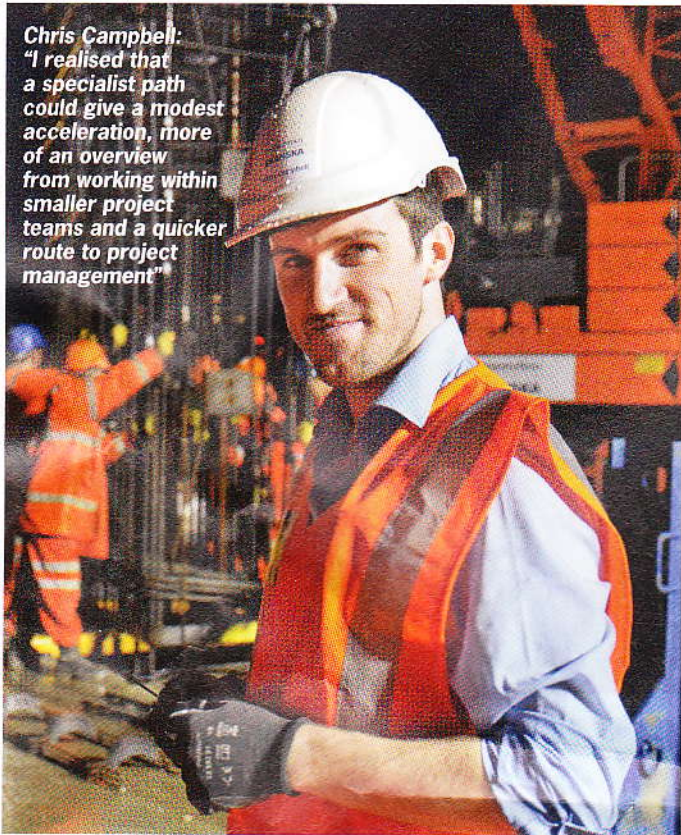
## David Coyne, Atkins

The renewable energy sector is providing David Coyne with the opportunity to apply knowledge he has built up via his civils degree from University College Dublin and an MSc in soil mechanics at Imperial College in London. With Atkins since October 2011, Coyne has been helping clients in this market increase their understanding of forces and load characteristics beneath onshore and offshore wind turbines.

"It's all about understanding the loads inflicted and how the ground will respond to those loads and therefore designing the most effective foundation," he says. "Atkins was pushing for technical excellence, especially in the energy market. I had been reading a lot on latest research in the course of my MSc, so have been able to apply advanced geotechnics to help Atkins in what it's hungry to do: to help clients make their offshore renewable projects happen by making them more economical."

Coyne grew up on his family's 65ha farm in County Galway, Ireland. It was there that an interest in engineering was born, partly from his involvement in the building of livestock buildings using sustainable

**Chris Campbell:**  
*"I realised that a specialist path could give a modest acceleration, more of an overview from working within smaller project teams and a quicker route to project management"*



materials "making the most efficient use of resources available". Summer work experience with local contractors helped to feed his interest before a passion for soil mechanics emerged during his studies in Dublin.

Since graduating from Imperial in 2011, Coyne has worked on rail electrification projects for Atkins' infrastructure group as well as its offshore oil and gas and renewables teams in Birmingham. "I'm keen to establish myself in this industry, but I'm just starting out so am going to keep my eyes and ears open to so many different things," he says.

## Joe Hilton, Atkins

Civil engineering is in Joe Hilton's blood. His grandfather lectured in civil engineering at the University of Manchester Institute of Science & Technology and his father specialised as a contractor building pharmaceutical facilities. The latest generation Hilton took a civils degree at Loughborough then an MSc in geotechnical engineering at Birmingham University. He was sponsored through the latter by his employer Atkins and managed to complete the course within two years instead of the allotted three by working through his holidays.

Two years later, Hilton is working for Atkins from Sharjah in the United Arab Emirates, on an oil and gas project in the Shetlands. Atkins' work on the scheme is being done from the UAE because the main contractor is an Indian company with a design centre in Sharjah. "The client's, contractor's and Atkins' engineering teams have been co-located to deliver the project efficiently," Hilton says.

The Shetlands project involves construction of a new on-shore gas processing facility for handling gas from the Laggan and Tormore fields in the West Shetland Basin. Hilton's main responsibility is assisting the design process for the £600M processing plant, including review of foundation designs for heavy dynamic equipment. Hilton has played his part: researching the subject to better his knowledge of foundations for dynamic structures, then reducing the number of piles on site from 3,000 to 211 by advising alternative designs and methods of ground improvement.

"The problem is essentially designing foundations for resisting centrifugal load around a central axis which creates a sinusoidal rocking movement in the structure. This is transferred as dynamic load by the foundations and has to be resisted by the soil," Hilton says. "The calculation is how much does



**David Coyne:** *"I'm keen to establish myself in this industry, but I'm just starting out so am going to keep my eyes and ears open to so many different things."*

it move and is that too much for the operation of the structure and will it shorten the design life of 30 years? That's the analysis. It's fascinating."

## Laura McDonough, United Utilities

Environmental sciences was the chosen degree course of geoenvironmental engineer Laura McDonough, due to its mix of the biology and geography subjects she studied at A level. "I particularly enjoyed the soil sciences module and undertook my final year thesis on surface soil contamination in school playing fields of urban and rural areas," she explains.

McDonough's first job after graduating from Liverpool John Moores University in 2004 was with Alcontrol Laboratories in Chester, initially as a project coordinator. "I was then promoted into the technical sales and marketing team where I developed more of an appreciation for contaminated land management and waste regulations," she says. The opportunity to play a role in improving environmental quality attracted McDonough towards her current path "and it looked like there would always be plenty to do, so good prospects", she adds. »



**Joe Hilton:** *"The calculation is how much does it move and is that too much for the operation of the structure and will it shorten the design life of 30 years? That's the analysis. It's fascinating."*