



Atelier One's **Christopher Matthews**, 26, was runner up in the 2014 YSEPA with a fascinating presentation on the analysis for the opening ceremony of the 2014 Sochi Winter Olympics. His work allowed staggers to use the existing stadium roof for spectacular flying scenic displays. He tells Jackie Whitelaw about his career so far.

"I thrive on variety! I am currently working on a range of different projects such as the opening ceremony for the first European Games in Baku, Azerbaijan, which take place later this year, and I can promise an impressive spectacle! Other recent projects include pre-planning structural input for a large residential scheme in London, a 'wind lift' that was in place for the Folkestone Triennial 2014 and an innovative gridshell roof for a shopping centre extension currently under way in Australia.

"It was clear from an early age that I would be a structural engineer – I spent hours at primary school playing with K'NEX. My teacher once invited me to bring in a model I'd been building of Brunel's Royal Albert Bridge [in Cornwall] that we were studying at the time. She got a shock when she realised it was the size of a table!

"My interest was also fed by the fact that I grew up 30 minutes away from the Eden Project in Cornwall. We would regularly visit the site during construction, donning hard hats and taking advantage of a land train down into the pit. The sense of excitement and awe that such projects generate was something I wanted to be part of.

"I studied for an MEng in civil, structural and environmental engineering at Cambridge and when I was looking for a company to join, I was keen to find a passionate team who loved what they do. At each of my graduate interviews, I asked the interviewers to choose their favourite project. Aran Chadwick of Atelier One had the best answer. He explained that he enjoyed every project he worked on, particularly liking the unique intricacies that must be overcome on each. As his example, he chose a touring exhibition stand he designed for CableTel that could lift itself off the back of a truck. His joy in explaining how it worked was obvious.

"What is particularly good at Atelier One is that we are often involved in the early stages of a project before the concept has been finalised. This is when engineers can have the biggest impact on the building, and where our creativity can be unleashed.

"The XSBN Theatre [in Wuhan, China], designed by Stufish Entertainment Architects, is a great example of this. By



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making some tweaks to the architect's initial structure within our concept design, we were able to clearly explain how a stacking origami roof concept could work. The roof form was changed very little during detailed design and is currently under construction in China.

"I had always imagined myself in bridge engineering, so working on buildings, art installations and stages has definitely been a surprise!

"What do I find most exciting? Sitting down at the beginning of a project to discuss initial ideas and what needs to be done. It's great to see people's enthusiasm and ideas. I also enjoy presenting to clients. My favourite so far involved swinging a paper cut-out of a car above my head.

← The highlight of Chris's career has been working on the opening ceremony of the 2012 London Olympics

"I found out about Atelier One through reading a magazine article on Eva Wates and her work on TV presenter James May's Lego house, and am pleased I did. I think keeping track of what is going on in the industry is essential. Magazines such as *The Structural Engineer* really help with this, but I also try to make the most of the broad range of talks, events and exhibitions that are on offer. I also love looking at new ideas in architectural books and thoroughly recommend the *Dezeen* website for inspiration!

"The best thing so far in my career is the six months I spent in the run up to the 2012 London Olympics working on the structures for the ceremonies. I still remember being immensely excited when I first saw a drawing with the 2012 logo – it was the first version of the support stand for the 23t bell that Bradley Wiggins rang during the ceremony. I felt very privileged just to have seen it!

"I ended up carrying out calculations for the stage and Glastonbury Tor structure, making sure that it could support 8000 athletes swaying in time to Paul McCartney's 'Hey Jude', a 600kg cow (Gabby, the Hereford Cross of 'Les Miserables' fame) and a carriage drawn by shire horses to name but a few. I ended up checking every single one of the 6000 bolts below the stage.

"Leaving the sub-stage warren as opening ceremony director Danny Boyle's industrial revolution chimneys were rising for the first dress rehearsal was a spine-tingling moment. I felt unbelievably proud to have contributed.

"Receiving the YSEPA was a great energiser and motivator for the future. I very much enjoyed creating the video to explain my work and am glad the award gave me an excuse to do so. Finally, meeting leading structural engineers at the awards lunch was a great privilege and has given me a much better insight into the workings of the Institution. I hope to get more involved in the future."