CELEBRATING 40 YEARS OF THE QUEEN’S JUBILEE SCHOLARSHIP TRUST

1977-2017
Forty years ago the Institution of Civil Engineers launched QUEST in response to the shortage of engineers entering the profession.

Today, that shortage still exists with continuing demand for engineers due to the increase in infrastructure investment. This is a time that developments in technology are creating innovative ways of constructing, operating and using infrastructure creating opportunities to join an exciting profession that is fundamental to help create a sustainable, resilient society.

ICE was created 200 years ago to promote the health, wealth and wellbeing of society and to recognise the emerging profession. It was triggered by the Industrial Revolution; today it is the Digital Revolution that is transforming the world of the civil engineer.

The opportunity to work in a global profession which impacts on people’s lives in such a positive way has motivated QUEST scholars for forty years. Companies also recognise that motivation and have joined the institution’s initiative to help support those students and professionals who make a commitment to the profession by gaining more education and experience to accelerate their career.

Thus, the QUEST scheme is a partnership between the institution, industry and individuals, creating mutual benefits which ultimately benefit society. The relationships and experiences that scholars stand to gain by entering such a partnership can be life-changing as can be seen in the case studies highlighted in this publication.

Today, QUEST at 40 is an inspirational and constructive support to the next generation of civil engineers.
I’m very proud to be presiding over the institution in QUEST’s 40th year.

The industry is facing a time of unprecedented change as it seeks to meet the vast global challenges brought about by population growth and environmental pressures.

I’ve been particularly concerned during my Presidential year with the need for all of us in industry to engineer a digital future to maximise the benefits from advances in technology, computing power, the rise of artificial intelligence, big data, and the adoption of BIM to name a few. QUEST scholars and award winners, past, present and future will be tackling these issues, and as the ‘brightest and best’ of our future workforce and leaders, we look to them to meet these challenges and show the way.

The ICE QUEST programme is also leading in another key area of industry change – promoting diversity and equality to create better, more balanced multi-disciplinary teams delivering infrastructure for the whole of society.

In 2016, 45% of all QUEST scholars were female – a terrific example to set. In investing in the next generation of professionals ICE stands for shaping a better world. Our internationally recognised professional standards are a public demonstration of the competence of our members.

In the future, the world needs many more competent, professionally qualified civil engineers. By investing in and supporting the QUEST scholarships, ICE, working with industry, is taking hard practical steps to entice the next generation into the profession, and to support vitally important continued professional development of our members.
BILL HEWLETT

QUEST Undergraduate Scholarship, 1981-1984

UNEARTHING THE POTENTIAL OF THE NEXT GENERATION

I applied for a Jubilee Scholarship, as it was then, to reinforce links I already had with ICE through activity while at school, for the experience of applying, for the prestige (should I be successful), and of course for the cash – then as now the costs of being a student were very real. I was already in work, doing a gap year with Costain, and the scholarship seemed a logical way to get a peer assessment of my potential; colleagues were very supportive. While at university, the interest the institution took in my development was very encouraging, and I was able to bounce ideas for project work and best choice of modules. Holding the scholarship also helped me when applying for a career job on graduating, particularly as, at the time, the industry was in recession.

After graduation I joined Costain full time and had opportunities to build highways and marine projects early in my career. With this experience I was able to progress to become the contractor’s Chief Engineer on the Avonmouth Viaduct Refurbishment Project once I was CEng.

Now I’ve 35 years’ experience of working in the construction industry, and my career has spanned most types of civil and structural engineering, across the range of building construction, infrastructure, nuclear and petro-chemical, working predominantly in contracting organisations. I champion safe construction methodology, and have built on my interest in temporary works engineering by co-founding the Temporary Works Forum, now a national body dedicated to this discipline.

I am currently Technical Director of Costain Group. In this position I am involved in over £1 billion of construction work and consultation annually, helping to steer projects to successful conclusions. As a part of this I am privileged to be involved in a number of industry-wide activities, from which I learn a great deal. From 2009 - 2013 I served as a Vice President of the Institution of Civil Engineers and in 2015 was elected to the Board of the Engineering Council, as the ICE’s representative. In 2016 I was also invited to serve as Chairman of the Standing Committee on Structural Safety.

I take a close interest in education and formation of engineers, both within universities and for those at all levels pursuing their careers in industry. As I get older, I find there is more and more to learn myself, but also that I can help others by sharing my knowledge.

I hope the newer generations of QUEST scholars feel the benefit of my many peers in the industry who share their learning as a habit, and that they in turn will contribute to the learning of our great profession.

Bill Hewlett in the office as a graduate engineer.
A CAREER KICK-STARTED

On discovering I had been awarded a QUEST Scholarship I was elated. It helped to convince me that I was about to embark on a challenging and fun career.

The scholarship has been hugely beneficial. My match with Morgan Sindall, a large construction and infrastructure firm with work across a wide range of interesting and complex projects, was ideal.

The annual summer placements on construction sites exposed me to what I could expect from the industry after graduation. I was able to put theoretical studies into practice on site and start forming positive relationships in my company. I discovered on my first placement that I just loved being on site and absorbed as much information as I could; including setting out skills and how to complete basic safety and programme documentation.

The summer placement learning allowed my sponsor to trust me on a challenging project as a Site Engineer straight after graduation – setting out a bridge and viaduct over the East Coast Main Line.

After this I secured an early promotion to Section Engineer on the Crewe Green Link Road in Cheshire. My section was to see the road be driven beneath the Derby to Crewe Line in an underbridge section. The critical point was a 54 hour period where Network Rail handed the rail line over to us. During this time we had to make preparations for, and move into place, a 2,000 tonne bridge to carry the existing railway over the new road.

In 2015 I was nominated in the European Women in Construction and Engineering (WICE) Awards for the Best Young Woman Engineer. After a testing selection process in London I went on to win not only my category but The Most Distinguished Winner of 2015.

I am currently responsible for eight structures and preparing to sit my Professional Review in autumn 2017. The head-start I gained with the QUEST Scholarship has definitely been influential in getting me ready to Professional Review within five years of my graduation. It was a fantastic way to kick-start my career and I’m very grateful.
GETTING BACK ON TRACK… AND AROUND THE WORLD

After getting chartered through ICE in 1995 I returned to academia and received my PhD from Bristol University in 2001. I then worked as a lecturer in Construction Management at Canterbury University in New Zealand where my research focus was on procurement for post-disaster reconstruction projects. In 2006 seven years before the Christchurch earthquake, I presented a paper at the San Francisco Centenary Earthquake conference with the title ‘An Analysis of the Alliancing Procurement Method for Reconstruction Following an Earthquake’. Little did I know at that time, that disaster was looming for me and my city.

My personal crisis happened in January 2007 when I had a kite surfing accident which left me in hospital for 20 months recovering from a brain injury. When I left hospital I was told by the medical staff that I would never walk again but I was able to defy this prediction and in 2014 I completed a triathlon. My recovery received a lot of publicity (jasonlemasurier.com) and has given me an opportunity to tell my story, to help inspire other people facing a crisis in their lives.

Having overcome the odds and recovered physically I wanted to resurrect my career. Since my accident Christchurch had experienced its devastating earthquake and an alliance had been established to rebuild the infrastructure in the form of the Stronger Christchurch Infrastructure Rebuild Team (SCIRT). To continue my research I wanted to go back to Christchurch to see how the SCIRT alliance was being implemented, in comparison to what we had predicted in the 2006 paper.

The QUEST travel award helped me to achieve this, to revisit New Zealand to resurrect my research career and to have a paper published*. The effects of my brain injury have meant that I have had to retire from my former career but the opportunity provided by QUEST has given me hope that one day I might return to an engineering career, possibly with some work based on my PhD.

IT’S NEVER TOO LATE TO BECOME AN ENGINEER….  

Since I was young designing and building things always interested me, but unfortunately when I was at school, engineering was never really encouraged as a career choice for girls. However, when I joined Grampian Regional Council Roads Department in 1988, as an admin assistant, there was one female technician amongst 30 engineers and technicians. Seeing her and what she did was my inspiration to be an engineer, but I did not have the confidence or support to pursue it at that time. 14 years later my circumstances changed and in 2004 I became a Technical Clerk within the Moray Council’s Consultancy for roads. Working with the engineers and technicians really ignited my passion for engineering and with their encouragement and support I realised being an engineer was actually possible. In 2008 still with Moray Council, I spent six months as a technician on site at the Rothes Flood Alleviation Scheme with Morrison Construction and loved every minute of it. Following this work experience I became a Trainee Civil Engineering Technician and in 2009 I started my four year journey at the University of the Highlands and Islands – Inverness to do a NC followed by a HNC in Civil Engineering under the Modern Apprenticeship Scheme.

It was during my second year in 2010, I was encouraged by my lecturers to apply for the QUEST Technician Scholarship, and I never thought I would be considered let alone be awarded it! I was immensely proud and honoured to be recognised by my ICE peers.

Since completing my SVQ 3, I became a Technician Member (Eng Tech MICE) in 2014. Gaining the scholarship gave me confidence in my career as a Technician and as a member of ICE. QUEST shows you have commitment to the institution but also highlights a passion for engineering. I’ve since enjoyed encouraging fellow students and colleagues to apply for QUEST scholarships and in 2014 I was invited to take part as an interviewer, which was very interesting to see it all from the ‘other side’.

Seeing my designs completed and come to life is what I love and enjoy about my job. From that initial project plan, carrying out the topographical survey, site investigation and producing outline and detailed designs, to supervising the construction. I also love passing on my passion for civil engineering and became a STEM ambassador in 2011. At the end of September I will be starting the next stage of my development, returning to university to complete the UHI Diploma of Higher Education in Civil Engineering…. my adventure continues.

Gaining the scholarship gave me confidence in my career as a Technician and as a member of ICE.
A QUEST FOR LEARNING

I’ve not taken the most straightforward route to my career as a specialist offshore geotechnical, geophysical and geoscience consultant...

After completing a BSc in Psychology at the University of Bristol in 2005, I decided to change tack by taking an Industry Placement at Faber Maunsell in Birmingham where I worked both in the Transport Planning and Intelligent Transport Systems departments. While I enjoyed my taste of engineering consultancy, I decided that a more relevant higher degree would serve me well to pursue a career in engineering so I did an MSc in Engineering in the Coastal Environment at the University of Southampton.

I returned to work for Faber Maunsell (now part of AECOM), based in Beckenham with the Rivers and Coastal team. I had an interesting and varied project list including the Lewes Strategic Flood Risk Assessment and the conceptual sustainable drainage system design of St Georges Park National Football Centre working closely with the Environment Agency.

The problem with engineering is that there is always more to learn however, and I was keen to continue my further education and develop my technical abilities. I decided to go back to university once again – to do an MSc in Geotechnical Engineering at the University of Newcastle. This time I applied for a QUEST Continuing Education award from ICE to help fund the course which I passed with distinction.

Combining the two areas of knowledge from my masters courses, I joined Cathie Associates, a specialist offshore geotechnical, geophysical and geoscience consultant. In the six years since, I’ve further specialised in subsea cable engineering and have enjoyed spells on secondment with several cable installation contractors. I have benefitted from invaluable time spent offshore overseeing both geotechnical site investigations and construction projects across Europe and beyond, working on numerous offshore wind farm, interconnector power cable and oil and gas projects.

The move north was a happy one in many ways as, in addition to settling upon a rewarding profession in engineering, I met my wife at Newcastle University – also a geotechnical engineer!

Having undertaken a form of graduate engineering rotation the hard way (!) I’m extremely grateful to QUEST for enabling me to complete my studies at Newcastle. As the son of a Fellow of the ICE, I think I’ve also made an old man very happy with my eventual choice of profession.
TAPPING INTO A RESERVOIR OF TALENT

After A levels, I studied civil engineering at Queens University Belfast, because I’d always had an interest in construction and engineering from an early age. In addition to my interest in the field I quickly realised the vast array of opportunities the industry had to offer me.

I am very pleased that I applied for a QUEST scholarship; it helped to make studying for my degree a very enjoyable and fulfilling experience. One of the big highlights was doing a summer placement working for GRAHAM Construction in Hull, building the new Siemens-Greenport Hull Complex which is making wind turbines. My role was working for the piling section constructing a new quay wall out into the River Humber for docking deep berth vessels, which would ultimately take the new turbines out to the North Sea for erection. It gave me more motivation for my final MEng year and proved that I was definitely following the right career path of becoming a contracting based civil engineer.

Civil engineering is a very challenging degree, however I feel that this helps to build great engineers – teaching us to work through tough periods while gaining skills, dealing with demanding schedules and ultimately making us better professionals. Since completing my degree I have more confidence and have learned how to tackle problems and use them as opportunities.

Having a QUEST Scholarship on my CV has been extremely beneficial – showing companies that I am driven and enthusiastic. I’m absolutely convinced that it helped give me a helping hand into industry. At university I promoted the many benefits of the QUEST scheme to potential new students to encourage them to apply.

I am currently a graduate engineer with GRAHAM Construction and am starting on my next challenge – to prove my competency as an engineer and gain professional qualification. I’ve been fortunate to have been involved in very interesting and challenging construction projects during the past few years including Greenport Hull, the construction of a 3 million litre capacity service reservoir and am now starting a new project constructing a caisson shaft.

I’m really excited about what my career holds in the future and grateful for the support I’ve received to get this far.

I am very pleased that I applied for a QUEST scholarship; it helped to make studying for my degree a very enjoyable and fulfilling experience.
TUNNELLING ACROSS THE ATLANTIC: AN AMERICAN ENGINEERING ODYSSEY

As a tunnelling specialist, I’m intrigued by practices in other countries and wanted to expand my knowledge. My trip took me all over the East Coast of America to learn more about tunnelling in USA and Canada and was truly fascinating.

I had often been told by colleagues that the North American tunnelling industry was like being taken back in time to what the UK industry was like over 20 years ago and I was interested to find out the truth in this. A key focus of my trip was to see if I could help the Tunnelling Association of Canada (TAC) and the Underground Construction Association (North America) establish their own young members’ tunnelling groups. I was also going to meet the women who had established the U.S. ‘Women in Tunnelling’ group.

As well as aiming to understand the tunnelling market I wanted to take the entire trip using public transport to compare the state of North American infrastructure to that here in the UK.

I started my trip by flying to Washington D.C. for the first evening of the RETC conference. This was really great, as was meeting the women in tunnelling – everyone was extremely friendly. It was particularly interesting to attend the rock tunnelling lectures, as we don’t have many of these projects in the UK.

Next was a series of project visits including the 7.4km long D.C. Blue Plains Tunnel, the NYC East Side Access project and the One World Trade Center station. I also managed a good amount of sightseeing including science at the Smithsonian, the High Line, and art and engineering at the Guggenheim Museum.

I followed these amazing visits by going further north to Toronto, Canada to do a site visit of the Eglinton-Scarborough Crosstown Light Rail Transit Link.

The whole trip was an amazing experience and it gave me a lot of food for thought. Since getting back to the UK I have given several presentations about my trip, both within my company and also to the British Tunnelling Society. I’ve shared as much as I can about what I learnt. The trip to the World Trade Center and the East Side Access project were of particular interest to my colleagues.

The whole trip was an amazing experience and it gave me a lot of food for thought.
SEAN BUTLER
QUEST Technician Scholarship, 2012

A MODEL APPRENTICE

I got into engineering whilst doing my GCSEs and started looking at what course I should do to get into an engineering career. I opted for an apprenticeship to enable me to work and study at the same time, and undertook a Level 3 NVQ in Construction & the Built Environment, Civil Engineering at London’s South Thames College.

I was one of the first students to successfully complete the Technician Apprenticeship Consortium and achieved the highest grades possible in the course. I also completed the apprenticeship a year early and have been highly commended for my work, effort and attitude throughout.

I really enjoyed the support I got from my colleagues at work. Not just in regards to my formal studies but in my all round development. This made the studying very much more enjoyable instead of a chore!

With my employer CH2M I’ve had the opportunity to work on some really interesting projects in design and modelling including London Olympics Crowd Management Strategy for Lewisham Station and coordinating design delivery for the Doha Metro Bid. I am currently managing the development, design, construction and handover of a number of Signalling Equipment Rooms across the London Underground network.

A few years later I followed up the NVQ with a Bachelor of Engineering (BEng), Civil Engineering at London South Bank University. I am undertaking the ICE Incorporated Members review in autumn 2017.

QUEST helped me as the award recognised not only my achievements but my potential that set me apart from my peers. I recently joined the QUEST committee to support the development of the awards and to help ensure they remain reflective of the current routes within the institution and industry.
RACHAEL STEPHENS
QUEST Technician Scholarship, 2016

THE FASTEST (FOOT) PATH TO SUCCESS

When I joined the construction industry, I had little to no experience. I joined Opus International Consultants (UK) Ltd in July 2014 as an administrative technician, supporting the Senior Permitting Officer.

Within a relatively short time, I asked about further work and responsibility and was handed a work stream of my own to project manage – the Footway Micro Surfacing programme.

After being promoted to Engineer’s Assistant, I was motivated to learn and progress more and did a NRSWA Streetworks course to better understand the contractor’s work from the operative’s viewpoint and after this I began to study for a Diploma in Civil Engineering part time – with a view to becoming a professionally qualified Engineering Technician in the future. This is when I applied to QUEST for the Technician Scholarship. Winning this, and getting distinction on my course, has given me even more confidence and thirst to succeed!

To get where I am now I’ve had to do a lot of work in my ‘spare’ time, I’ve tried to devote an evening every week to reading up on new techniques and research. It’s great to work with experienced colleagues and learn from them and I’ve been lucky enough to get such good support from my company for developing my knowledge and skills.

Alongside the day job I’ve also been taking part in a local schools outreach programme with a view to encourage young students to consider a career in engineering. And volunteering for Inspiring the Future’s ‘Inspiring Women’ campaign. These are both really close to my heart as no-one told me about careers in this industry when I was growing up and I wish I’d found it a little sooner!

My work at Opus is going really well still – I managed to deliver an extra £1 million of Footway Micro Surfacing Works last financial year – and I’m really looking forward to completing my next challenge, which is an HNC.
AN OVERSEAS QUEST THAT PANNED OUT WELL

Thanks to a very encouraging physics teacher I started my MEng civil engineering degree in 2014 and was fortunate enough to have the opportunity to take part in a Global Engineering module for my masters year, which included the practical experience of taking part in an overseas project.

I joined a team of 11 sent by Raleigh International, on a mission to build three new communal toilets (tandas) in a developing village in Borneo called Kampung Kobon. The tandas we built differed from any that were currently there as they were designed with sustainability in mind.

Conditions in the village were pretty basic and unfortunately one of the dams constructed in a previous project to set up a rainwater harvesting system had broken so it was short on water supply as well. The existing tandas were worn and falling apart.

At first we hoped to build the three tandas and then fix the broken dam as well but this wasn’t possible as there were plenty of unforeseen challenges to cope with. These included masses of deep-rooted vegetation to clear, hard clay and difficult access to sites over steep hills making transporting equipment difficult. This all resulted in plan and design changes.

We did however build the three tandas, and do some asset mapping as well as giving WASH and Active Citizen Science talks to locals to support the provision of the new facilities. Getting to take part in something like this was a very enriching experience for me, both culturally and professionally. I learned a lot; from the locals, the other volunteers and from overcoming the challenges in applying my engineering knowledge on site. I’ve also improved my teamwork and communication skills.

This experience will help me in my future studies and career as I now fully understand the need of good organisation and project planning. It has also helped me improve my teamwork and leadership skills which will help me in any future team projects I may be involved in.

I’ve since had word that the tandas are working and being used regularly. Being able to provide the people of Kobon with clean, sustainable and hygienic facilities is an indescribably great feeling and securing the QUEST award was invaluable in making all of this happen.
The Queen’s Jubilee Scholarship Trust or QUEST was set up to encourage young people to pursue careers in civil engineering, and over the years has grown to offer opportunities for support and development to existing members.

We offer scholarships and awards for students, graduates and professionally qualified members at all levels to develop their knowledge and skills and fulfil their potential.

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QUEST is supported by a huge range of individuals and organisations, without whom we wouldn’t have these great stories (and the thousands more we couldn’t fit in!).

Supporting QUEST offers many benefits for civil engineering organisations including opportunities to secure top graduate talent and the chance to be seen as a leading employer to engineers at all levels.

Finally, special thanks go to those thousands of individual members who continue to support QUEST with the donations made through their annual subscriptions.

If your organisation has an interest in supporting the next generation of civil engineers to reach their potential, get in touch with us to see how we can work together.

If you’re interested in supporting QUEST please get in touch at:

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t. (0)207 665 2193