



THE UNIVERSITY *of* EDINBURGH
School of Engineering



Employ.Eng Newsletter

Issue 1: July 2020

Welcome

Welcome to the first edition of the School of Engineering Employer Engagement (Employ.Eng) newsletter! We have been wanting to launch a newsletter for a while now and recent developments have made it all the more necessary for us to reach out to you and keep you informed about placements and other student focussed activities that might be of interest. Employ.Eng is the name of the website we're currently developing to host information for students and employers on industrial placements, employability and ways for employers to engage with our students. More information about the website will be in the next issue.

Meet the placement team

The placement team became a "team" in 2019 with the arrival of Elsie Dent! Elsie and Katherine work with the three placement course organisers to support placements.



Katherine Cameron
Industry Engagement Manager
K.Cameron@ed.ac.uk

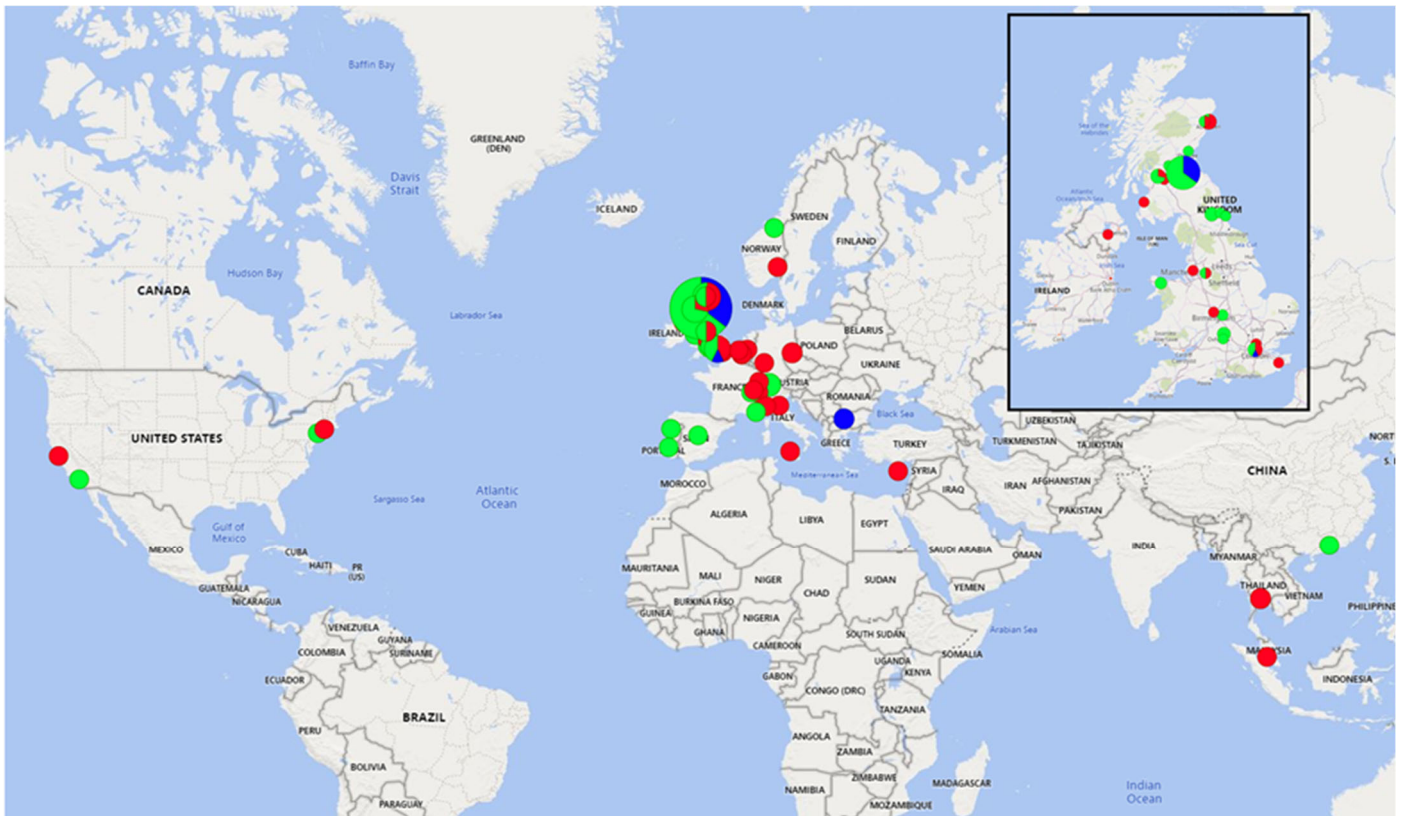
Katherine has a PhD in Electronics from the University of Edinburgh and has been working for the School of Engineering since 2005, first as a researcher and then taking up the running of placement programmes in 2014. As Industry Engagement Manager, she manages placement programmes and also has a wider remit of embedding employability into the curriculum. She works closely with the placement course organisers, the Careers Service, and Director of Industrial Engagement Stephen Finney.

Elsie Dent
Placement Administrator
Elsie.Dent@ed.ac.uk

Elsie has a Masters by Research in Contemporary Work and Business History from Sorbonne University. After having worked as a Research Consultant in Industry and later for the Careers and Engagement Department of Sorbonne University, Elsie recently joined the School of Engineering in October 2019 as Placement and Summer School Administrator. She works closely with Katherine to liaise with companies and students and support the administrative processes involved in placements.



An update on industrial and overseas placements: 2019/20 - a bumper year with a difficult end



Location of School of Engineering credit bearing Industrial and Overseas Placements in academic year 2019/20. Red - Chemical Engineering, Blue - Electronics & Electrical Engineering, Green - Mechanical Engineering

During the 2019/20 academic year we had a record number of credit bearing placements: 141 placements in 94 different host organisations across 17 countries. Thank you to all the companies and research institutions who hosted our students, we know how much our students benefited from the experience. A particular thank you to the supervisors who looked after our mechanical engineering students so well as the Covid-19 pandemic changed working practices across the world.

Placements in 2020/21 will look a little different. For the placements beginning this summer, students have been unable to travel overseas and all the placements that have started so far are being conducted remotely. The University is continuing to review its Covid-19 placement advice and we hope that the placement situation will begin to look more normal very soon. We understand that this year may be difficult for you too and one of the reasons that we are starting this newsletter is to keep in touch with companies who may not be able offer placements this year. You are our valued partners and we don't want to lose that relationship.

We will be emailing all our placement partners in August to enquire if you are interested in hosting a placement starting in 2021. If you aren't able to support a placement please let us know at that time if you'd be interested in engaging with our students in other ways. If you haven't previously offered a placement and would be interested in finding out more please email Engineering.Placements@ed.ac.uk and we'd be happy to talk to you about it.

Successful peer-led teamwork: our experience of virtual internships



Top row, left to right: Rohan, Timm, Doga. Bottom row, left to right: Calum, Rafael and Bora.

In these challenging times, when summer internship opportunities have been harder to come by, the School of Engineering believed it was crucial to continue to provide research and teaching development internship opportunities to our students. As a result, 33 students started remote internships this summer. We talked to four of them undertaking their internship under the supervision of Dr Timm Krueger and Dr Rohan Vernekar.

Finding the right summer placement is never easy

Finding one during a global pandemic presents a whole new range of challenges. These difficulties were not lost on Dr Timm Krueger, and his colleague Dr Rohan Vernekar, who made the decision to offer remote placements for students wishing to work on their SynBio-inspired nanomaterials manufacturing project 'SynBIM'. Funded by EPSRC, this project is part of a four-year collaboration with the Universities of Sheffield and Strathclyde, which aims to upscale the production of nanoparticles using environmentally friendly conditions for the medical or food industry. Dr Krueger and Dr Vernekar had initially wanted to hire two interns over the summer: a chemical engineer to help them conduct literature reviews, and a computer science student for deploying code online as an outreach activity. The outbreak of the COVID-19 pandemic forced them to change these plans. Whilst initially nervous about the prospect of transitioning to remote working, the pair spotted an opportunity to create a new form of interdisciplinary peer-led teamwork to allow the project to go ahead... from a safe social distance. Dr Timm Krueger explained that:

“As researchers and educators, we felt it was our responsibility to offer as many qualitative opportunities as we could, especially during these challenging times. As a result, instead of hiring two students as we usually would, we chose to form a team of four students from different backgrounds. It was very important for us for the team to be interdisciplinary and complementary.”

But how to ensure that a remote project placed student-led learning at its core? The idea, according to Dr Krueger, was for the students to work collaboratively on different areas of the same overarching project. For self-supervision and peer mentoring to be effective, it was important that the selected students be from different speciality backgrounds (in this case, Computer Science and Chemical Engineering) so that “they could answer each other’s questions”. With so many placements cancelled due to coronavirus restrictions, the SynBIM project presented an ideal opportunity for our students to gain professional experience over a challenging summer. We sat

down with the four students who were selected to take part (Bora and Rafael from Computer Science and Doga and Calum from Chemical Engineering) to talk about what they learned from the placements, and to find out what were the challenges and benefits of carrying out a 'virtual' placement for the first time.

What did you learn from your placement and the transition to remote working?

Bora: I sometimes found it hard to make progress on abstract concepts where I can't solve problems immediately. I personally found it harder to focus at home. I missed being able to walk up to someone's desk to ask a question. However, working in a team allowed me to get on track very quickly and better understand the work of others whilst creating my own. I am grateful for the new technical skills that I have acquired, which will help me moving forward.

Doga: I also found the interdisciplinary group work very useful. We benefitted from the diverse skillset within the group and completed each other whenever we came across a problem. Having peers with whom I can discuss any obstacles made me feel supported and engaged. We greatly benefitted from the virtual meeting tools. All four of us students met daily to talk about any updates and we kept track of each other's progress through OneNote. I enjoyed how flexible work was. I know that I work better at night, and I enjoyed being able to choose my own hours. I installed Teams on my phone to keep up to date and informed. I learned to use meetings effectively and take the time to digest and discuss an issue to form an articulate question.

Rafael: At first, I missed having an office space and hours to mark the start and end of the working day. I had to adapt to not having anyone to tell me to stop working. However, I also enjoyed the flexibility that remote working allowed. Personally, using MS Teams to ask questions and support other team members as well as having daily stand-up meetings has been a huge help and motivator that enhanced cooperation and teamwork between us. I'd like to work in a similar way in the future.

Calum: The transition to online working did not affect me greatly during my placement, as I had already been working from home for two months during semester 2. However, I did find things difficult for the first month. I felt like I couldn't escape my work or maintain a balance. With time, I got better at compartmentalising work and home life. It still causes problems now occasionally, but I have mostly got used to it. The most important thing I have learned is the value of teams. Having a team structure with regular meetings and open conversation through MS Teams has been a huge help. The small, multidisciplinary group of four has replaced a lot of the "office interactions" that working from home doesn't allow for. This increases the number of new ideas generated, compensates for the reduced level of supervision. It gives you a sense of being "part of something".

This sense of close cooperation impressed Dr Timm Krueger and Dr Rohan Vernekar, who were quick to praise our students' skilful adaptation to this new working pattern, as well as the high quality of their communication. "The students put a lot more effort in to discussing the issues with each other and forming well-crafted questions. I feel it works a lot better in terms of work and time commitments", commented Dr Krueger. Whilst pre-pandemic internships were often overshadowed by a discussion of working practicalities, he pointed out that the shift to remote working "enabled students to discuss problems amongst themselves" which resulted in a more filtered, higher-level question and faster-pace learning. Indeed, remote working did not impact personal communication and performance as both staff and students had feared. Perhaps one of the lessons to be taken away from this internship is that COVID-19 can allow us to explore the spectrum of tools available to us and use them more intentionally. It has allowed us to see the value of more informal platforms such as Teams, which bring a different dimension to our way of communicating online (something Dr Krueger and Dr Vernekar plan on keeping when moving forward). The positive feedback from both staff and students is a heartening reminder both of the strength of interdisciplinary approaches, and of the benefits to more flexible working models – both of which will be crucial in our School and beyond, as we adapt to the challenges of the new working environment.

Being a student on placement abroad during a lockdown



Brittany Sayers, 4th Year Mechanical Engineering student, completing her 6-month placement with Hilti.

Brittany Sayers is one of four Mechanical Engineering students who completed a placement with Hilti in Liechtenstein this year. We asked her about her experience of being overseas on placement as the Covid-19 travel restrictions came into force.

I am a 4th Year Mechanical Engineering student, currently completing my 6-month placement with Hilti. I am working in Anchor Development at the Headquarters in Schaan, Liechtenstein, and living in Austria.

Beginning my placement in January in a new country, surrounded by amazing landscape and a welcoming Hilti community, all made for a smooth and exciting transition to life in Austria. Within the first few weeks of starting I was granted a lot of responsibility, steering my own project based on developing a fastening system, creating concept designs and developing these to create 3D printed prototypes. Whilst my weekends involved skiing or travelling with other Hilti interns.

However, daily life quickly changed once Covid-19 became more critical in central European countries. For two months I had to transition to remote working, as did the whole company. The main impact came when my project was postponed due to changing priorities in my department, resulting in my focus shifting to two new projects: the development of a new Cast In Place anchor and supporting in the development of an identification bank. Additional challenges came in making the decision to remain in Austria, despite facing the uncertainty of when I could next return home to the UK.

Staying in Austria proved to be the best decision, as restrictions were soon lifted and office life returned to normal from June, with the necessary restrictions in place.

One of the biggest challenges throughout Covid has been defining the start and end of the workday. It was an important balance to find. From my placement, I have developed both as an engineer and in my personal skills. Having worked in a development role, I have gained valuable hands-on experience in the full process of concept designs to prototypes. My communication skills within a professional environment and time management between multiple projects has greatly improved.

Despite the unfortunate situation, I have greatly enjoyed and valued my time with Hilti and look forward to continuing my work until the end of August, before returning to Edinburgh.

Introducing the Molly Fergusson initiative



Top row, left to right: Dr Camilla Thomson, Mbayer Abunku, Gunel Aghabayli, Dr Anna Garcia-Teruel, Sarah Dallas. Bottom row, left to right: Anushka Kapoor, Desen Kirli, Mary 'Molly' Fergusson, Dr Francisca Martinez Hergueta, Maty Tall.

To mark this year's International Women in Engineering Day (INWED), the School is highlighting the achievements of women across the School of Engineering. The linked article highlights the staff and students involved in the Molly Fergusson Initiative – a recently founded initiative to promote the visibility and community of people who identify as women in the School of Engineering.

Find out more at: <https://eng.ed.ac.uk/about/news/20200629/introducing-molly-fergusson-initiative>

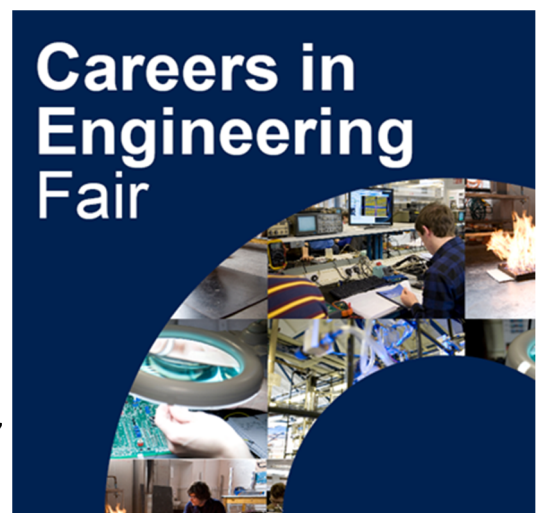
Twitter: <https://twitter.com/FergussonMolly>

Register your interest for 2020-21 activity:

A message from the Careers Service

With all the uncertainty at the moment we understand you may not yet know what your plans are for September or October. We are still investigating options ourselves but we wanted to give you the opportunity to register your interest now for connecting to our students and graduates later in the year.

Read more about our [Careers Fairs](#) (including our [Careers in Engineering](#)) and [other ways you can engage with students](#), and let employers@ed.ac.uk know how you'd like to connect in Semester 1, 2020-21.



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