



THE UNIVERSITY *of* EDINBURGH  
School of Engineering



# Employ.Eng Newsletter

## Issue 2: November 2020

### Welcome

Welcome to our second Employ.Eng newsletter and thank you for the kind comments about the first issue. Amongst other information, this edition features articles about our two space related student societies, namely endeavour and Asteria, and a chat with a current placement student and her industrial supervisors on the mutual benefits of a placement in industry. Please let us know if there's anything you'd like covered in future editions.

We hope you are all doing well and have a restful holiday when it comes.

Elsie and Katherine

### 1st year students interview an engineer

The School of Engineering was in the process of renewing our curriculum but the need to move to Hybrid teaching over the summer to allow online learning for students hastened this process. As part of this, our Engineering 1 course was redeveloped to focus more on what it is to be an engineer and how engineering is done in practice. One activity introduced this year was for groups of students to interview an engineer so they could explore what it means to be an engineer and reflect on why they chose to study engineering. Through a [School of Engineering LinkedIn](#) post and with support from our Industrial Liaison Boards to spread the word we received over 140 offers from alumni and friends of the School who agreed to meet with our students and share their experiences. Feedback from the students showed that they had greatly appreciated the opportunity to speak to an engineer about their career and the engineers had enjoyed it too.

"I want to thank everyone who took part in this exercise, the students really enjoyed and valued the experience. I've looked through their essays (not all 400 of them!) and they are thoughtful, perceptive and enthusiastic about what was discussed with them. Some of them have had their preconceptions change, some have had reassurance that engineering is for them. We all remember those uncertain times in first year when we wondered if we'd chosen the right course, well this has helped with that for these students."

**Dr Jennifer Skilling**

This will be a regular part of 1st year from now on. If you would like to be notified when we start making plans for next year please contact [Engineering.Placements@ed.ac.uk](mailto:Engineering.Placements@ed.ac.uk) and we'll add you to our list of potential volunteers.



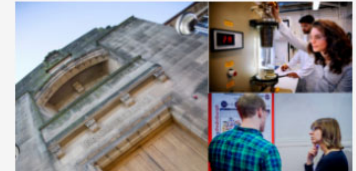
## Employ.Eng

### MAIN MENU

- Home
- Information for Students
- Information for Employers
- Engineering Alumni

## Welcome to Employ.Eng

Employ.Eng is the website for industrial placements and employability within the School of Engineering. Most of the information will focus on the 6 month placements many of our MEng students undertake during their degrees but there will also be information about summer internships, graduate positions and relevant events. We work closely with the Careers Service and the Engineering Careers Consultants will provide links to relevant resources.



## Alumni Profiles and the Employ.Eng website

Last issue we mentioned that Employ.Eng is the name of the website we are developing to point students towards employability information provided by the School and the Careers Service as well as being a source of information for employers on how to engage with our students. One of the parts of the website we are very keen to develop is a bank of alumni profiles which our students will be able to view and search when looking for ideas about where their degree can take them. Our aim is to have a representative sample across the four engineering disciplines and various stages of career development. We will launch the website with a group of profiles and then continue to add to them. If you, or a member of your team, studied Engineering at the University of Edinburgh and would like to contribute a profile, the Alumni Career Stories form can be downloaded at: <https://edin.ac/2UuC3nm> and should be returned to [alumni.eng@ed.ac.uk](mailto:alumni.eng@ed.ac.uk).

## Congratulations to our Engineering Leaders Scholarship winners!



RAEng Engineering Leaders Scholarships were won by Terry Hutley (not pictured), and (L-R): Sophia Koni, Maks Kozarzewski, and Elvis Lepardinas.

Congratulations to Terry Hutley, Sophia Koni, Maks Kozarzewski and Elvis Lepardinas who recently won Royal Academy of Engineering Leaders Scholarships! These competitive scholarships support undergraduates who can demonstrate the potential to become leaders in engineering and role models for future engineers.

All Scholars receive £5,000 to be used over three years towards career personal development activities. You can read more about how these talented students plan to put this opportunity to good use [here](#).

## Placements: a conversation with Quaker Oats—PepsiCo

Aimee Scott is one of our Chemical Engineering MEng students. She is currently on placement with Quaker Oats—PepsiCo. We sat down (virtually) to talk about her experience along with her industry supervisor Carl Andrews and his colleague Mark Watson.



*Aimee Scott, 5th year Chemical Engineering student, working at Quaker Oats—PepsiCo during her 6 month MEng placement.*

With over 30 years of manufacturing experience (and experience working with Mars and Nestle in food manufacturing), Carl Andrews is no stranger to mentoring and supporting students on their gap year. His colleague Mark Watson's 25-year experience in manufacturing (and latterly in a Lean Six Sigma Black Belt Role with PepsiCo), only served to underline the PepsiCo Team's approach both to the role placement students can play within an organisation and the benefits of recruiting them.

"Given my experience with a placement student three years ago, I knew students could be a massive help" Mark told us in our Zoom meeting: "I also knew to pre-structure the workload and make sure they were doing work that could be of benefit to them. They are doing work I would be doing and so it has helped accelerate the process and has made work a lot faster."

Mark and Carl were keen to repeat their positive experience of previous years. After achieving top results on assessment tests, Edinburgh Chemical Engineering MEng Student Aimee Scott was invited to carry out her six month placement at Quaker Oats—PepsiCo between June and December 2020. The team had initially planned to take on a year-long placement student, however, given Aimee's performance they were happy to allow for a six month placement to go ahead. Although keen to allow Aimee to delve deep into processes, Mark was aware of the balance of structure and immersion needed to support placement students.

"I was not sure how much freedom I should give Aimee" he remarked. "Should I task her day to day, or allow her to set up her own programme?" He started by giving one or two days of workload at a time. Now, he agrees, they are more like colleagues and the experience has been overwhelmingly positive. "We meet once a week in a formal one-hour session and have a quick catch up each morning" he told me: "I haven't had to micro-manage her. She has very strong technical skills and soft skills." Carl, too, was delighted with results: "She has been very engaging

and has been a very positive member of our team” he commented.

Being exposed to manufacturing was also very important for Aimee, allowing her to see how her improvements to processes translated into real-life results. By drawing on their placement student’s previous database and software aptitudes and knowledge, Quaker Oats were able to make productive use of a software package that had gone unused due to a lack of familiarity with the material. This allowed them to optimise cost saving and reduction in waste: a process which proved to be of enormous benefit for a student like Aimee. “Before I started, I had a vague idea that I wanted to work in manufacturing” she told us, “But this placement has allowed me to become more confident in that. I was very happy to be able to apply my academic work and theoretical learning in a real-life setting. I was also able to gain confidence in technical analysis.”

When asked what advice they would give to companies looking to hire a student, Carl and Mark echoed the need to keep students’ needs and capabilities at the heart of the placement experience: “Pre-structure the workload and make sure they are doing work that could be of benefit to them” they agreed: “It is helpful to have a mutual understanding of what the students get taught and what you do as a company.” On the whole they described the experience as something “very beneficial and gave us a new perspective on our systems” which they would be keen to repeat in the future.

Despite the obvious challenges facing employers over the coming months, success stories like Quaker Oats and Aimee’s are the reminder of the positive impact of placements for both students and employers.

## Are you considering taking on a placement student?

If you have been inspired by Aimee’s story and would like to discuss placements options, the Placement Team are always ready to have a conversation, please contact us at [Engineering.Placements@ed.ac.uk](mailto:Engineering.Placements@ed.ac.uk).

We have three MEng placement programmes, all six months long.

- Mechanical Engineering Industrial Placement: January—August
- Chemical Engineering Industrial Project: June—December
- Electronics and Electrical Engineering Industrial Project: June—December

We have a [placement overview](#) document that you can download which gives a brief description of the three programmes and also covers the Civil and Environment Engineering summer placements. If any of the programmes are of interest, we can provide more detailed information about what is involved.

We are currently advertising placement positions to all groups of students.

The **Mechanical Engineering** students will be starting first in January/February. If this group is of interest, it’s not too late to advertise and we have a number of very good students who are still looking. The detailed Information for Companies document is available [here](#).

For the other degree programmes there is less of a rush but please do let us know if you think you could offer a placement or your company has an advert live that our students should know about.

## Spotlight on Student Space Societies

The School of Engineering is home to many innovative student societies. In this edition we will focus on our space industry related societies, namely **endeavour** and **Asteria** led by Neil Buchanan and Ani Vasudevan respectively. Both students were recently asked to talk alongside our alumnus and NASA employee Andrew Abercrombie in his online talk '[Ice, Space, and Fire: Surviving and Thriving in Extreme Environments](#)'. We followed up with them afterwards.

### endeavour: Increasing student engagement with the space industry



Left: endeavour team photo; Right: Render of Darwin I rocket due to launch in March 2021

I'm Neil Buchanan, a fourth-year mechanical engineering student at the University of Edinburgh. I started **endeavour** (<https://www.endeavourrockets.com/>) with the goal of bringing aerospace and space technologies to our university community and increasing student engagement with the space industry. We design, manufacture and test high power rockets with our *Darwin* team planning to travel out to Spaceport America in the New Mexico desert next summer to launch at the largest rocketry competition in the world. I'm also very proud of our *Maxwell* team who are working on the first fully student developed 3D printed rocket engine utilising eco-friendly fuels and our *Bayes* team who work with advanced propulsion control systems. Our aim is to amalgamate these three work streams in the future as we strive towards a space faring launch vehicle by 2030.

Rocket science is definitely no easy feat however and we are actively looking to collaborate with industry partners through all aspects of our projects. If your company works with aerospace, composite materials or manufacturing technologies and you'd like to support one of the most exciting student projects in the UK right now, then please do reach out to us via [team@endeavourrockets.com](mailto:team@endeavourrockets.com). We're competing on two continents in 2021 and offer exposure at the highest level of student competition in aerospace with industry representation from SpaceX, Blue Origin and Virgin Galactic amongst others. Combined with our outreach programmes, we provide a route for further STEM engagement between industry and the next generation of rocket scientists who will take humanity to the stars.

## Asteria: Building and deploying the UK's first student-built satellite.



Top, left to right: Ani Vasudevan, Jan Uhlir, Rebeca Elena Ursu, Irina Gubacheva. Bottom, left to right: Martynas Noreika, Konstantinos Vlamis, Andrew Ferguson.

Can Edinburgh become the space data capital of Europe? **Asteria: Space and Satellites** ([asteria-space.com](https://asteria-space.com)), an Edinburgh student-led venture to launch a nanosatellite into space in December 2021 is yielding some exciting projects!

Asteria's goal is to build and deploy the UK's first student-built satellite, called *Oracle 1*.

Sometimes, to solve a problem, it helps to view it from a completely different perspective. So, imagine if you could help slow the spread of diseases by tracking its spread across the world from space or use satellite information to help farmers predict the health or yield of their crops? Space exploration and technology will play an ever increasing role in our lives, and it is estimated that the global space market will be worth £400bn by 2030.

The founding principle of Asteria is to bring real satellite engineering into the hands of students. Our team started out small -- just three students -- but through iterative development and expansion, we grew to 30 people last January and now are strong at over 100 across many disciplines.

To the team, Asteria is an incredible learning and inspirational tool. Most students on the team never thought they would work on space technology in their career, let alone at University. It nurtures skills that are difficult to teach in a classroom, like team working, leadership, and networking.

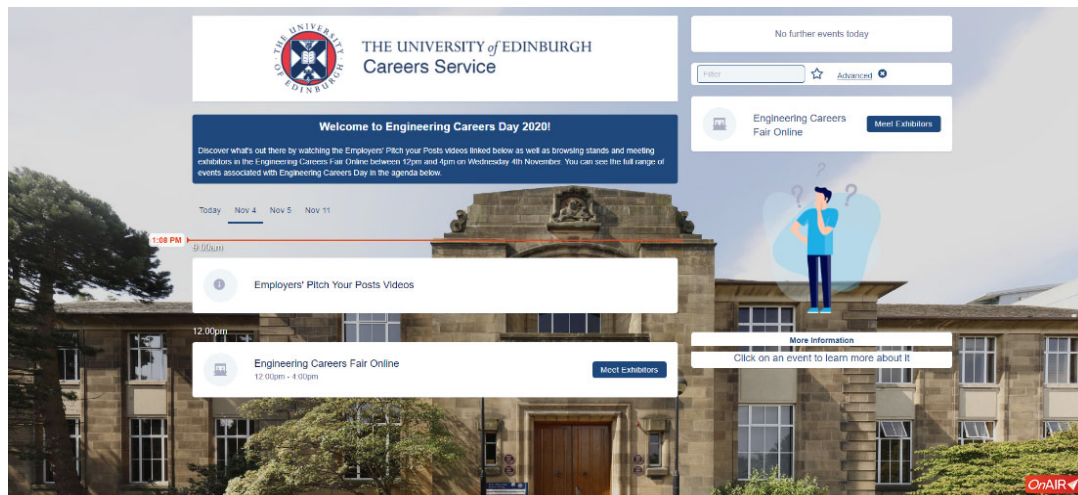
The Oracle 1 satellite is pursuing a mission to help monitor and predict outbreaks of mosquito-borne diseases like malaria and dengue fever. This ambitious and carefully studied mission is now motivated by COVID-19 and has the potential to save lives – particularly in rural areas. This mission is designed in-house and implementation in Oracle 1 will provide valuable earth imagery to governments, research and data analysis teams, and Asteria ourselves, who will analyse and hopefully come to important conclusions regarding disease outbreaks.

This mission definitely strikes at the values of our team and its members. There's a strong demand for solutions to health and environmental challenges, and our mission certainly ties into both the global need and our personal ambitions as rising engineers and scientists.

Our team hopes to inspire others, and that Edinburgh's burgeoning space technology community, at the University and within the city, can grow and develop providing further inspiration to the next generation of students.

If you're interested in being part of the journey, please consider supporting the team at the page here: [gf.me/u/y5ckzt](https://gf.me/u/y5ckzt), or by contacting [executive@asteria-space.com](mailto:executive@asteria-space.com) or calling our Managing Director, Ani Vasudevan, on 07803 086550.

# Careers in Engineering Fair – Online Success!



Screenshot of the Virtual Careers in Engineering Fair

This year's Careers in Engineering Fair (4<sup>th</sup> November) moved online using the EventsAir platform. Despite initial concerns about how the virtual experience might work, numbers were up with 406 students and 7 graduates checking in. This is the highest attendance in the last 5 years! Over the course of the day, 280 text chats and 362 videos calls were exchanged with the 22 recruiters present. We were delighted to receive positive feedback from both students and employers:

“This format is good as you can have more in depth conversations when compared to the stand in a hall kind of setup. We were typically having 20-30 minute conversations with keen students” **[Recruiter]**

“Good networking opportunity. Also chatted to engineers just a few years ahead which was a great insight.” **[Student]**

“I spoke to some really wonderful students and had some fabulous conversations. I felt they were prepared and got stuck into asking lots of questions to make the most of the experience” **[Recruiter]**

Interested in attending next year? Email: [employers@ed.ac.uk](mailto:employers@ed.ac.uk) to register your interest.

## Do you have any IT or technology roles to promote?

The “Tech & Data Careers Fair Online” on Wednesday 10<sup>th</sup> February 2021 has now opened for bookings. 691 students attended last year! Bookings and further details [here](#).

## Data Protection

The School of Engineering (the School) is committed to protecting your privacy and keeping you informed of how your information is used. We will only record your personal details in the manner and for the purposes set out in this privacy notice. Data will be kept secure from unauthorised access, use or disclosure. We will not sell, rent, trade or otherwise knowingly share or provide your personal information to any third party, except insofar as legally obliged to do so or as specified. Read our [Privacy Notice](#) for further information about how we use and store your personal information.

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