



THE UNIVERSITY *of* EDINBURGH
School of Engineering



Employ.Eng Newsletter

Issue 3: March 2021

Welcome

Welcome to our third Employ.Eng newsletter. We hope you are all doing well and enjoying the increased daylight and the occasional bit of sunshine.

Amongst other information, this edition features articles about our Formula Student and Hyperloop societies, and a conversation between an alumna and her student mentee on the mutual benefits of the new Engineering mentorship scheme.

As we've now released three issues of our newsletter over the last year, we'd value your feedback on the frequency and the content. Please let us know via [this form](#), it should not take you longer than 5 minutes.

Elsie and Katherine

Are you interested in hosting one of our talented chemical engineering students for a six-month project-based placement?



Employing a student on placement is a great way to bring fresh perspectives and insights to your business, while supporting the next generation of engineers to develop their employability skills. We're currently inviting expressions of interest from companies interested in hosting a paid placement starting in June 2021. Read our chemical engineering placement leaflet for more details: <https://edin.ac/3keisnn> Interested in engaging with our students?

Contact us at Engineering.Placements@ed.ac.uk

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The School of Engineering has an active Social Media Feed. To keep up-to-date with our news, follow us on:

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Mentorship : a conversation with Audrey Orhon & Vanessa Ombura



Mentor Audrey Orhon (L) and mentee Vanessa Ombura (R).

Philanthropy Manager Caroline Campbell set up the School of Engineering mentorship scheme in 2020 in response to a growing number of alumni who wanted to use their experience, connections and expertise to support our students, as well as a number of students who were keen to benefit from the wisdom and knowledge of our thousands of global alumni who have achieved success in Engineering and related industries. The scheme has now been rolled out to all of our Engineering disciplines and both alumni and students around the world have told us that it's been a really positive experience. Alumni were delighted to be giving something back to the School, and students benefited from career advice, a listening ear and non-judgemental support. We met up with mentor and mentee Audrey and Vanessa to learn more about their experience.

Mentoring has always been a big part of Energy Industry leader Audrey Orhon's professional life. After graduating with a degree in Mechanical Engineering in 1999, a career in Oil and Gas saw her swap a five year stint in Aberdeen for Texas in 2004, where she has spent the majority of her career since. In 2019 she moved back to Edinburgh for two years and saw an opportunity to reconnect with her Alma Mater through The School of Engineering Mentorship Programme as a way to "expand my mentorship beyond my company." Audrey was paired-up with final-year Kenyan Civil Engineering Student (and Mastercard Foundation Scholar) Vanessa Ombura. Vanessa is very interested in the intersection between science, conceptual design and sustainability. She is also involved in a lot of STEM based extracurricular activities, research and consulting. Being introduced to each other, turned out to be more of an eye-opening experience than both had initially anticipated.

"Talking to Vanessa has allowed me to realise that students are now entering the workforce with a much broader view of the world" Audrey tells me. "The downside of this new context for students like Vanessa is that there is a huge pressure to be the absolute best, and that can induce fear. It can also make the transition from university to the workplace feel massive and overwhelming."

Understanding these constraints, as well as what this new generation is looking for in a job is vital, she argues, from a business standpoint. "What you learn from this new workforce is invaluable for your business" she insists "there is a need to understand this new generation so we can adapt our work policies, how we build teams and get the most value out of, and for, our employees." Drawing on Vanessa's critical interest in sustainability has also helped underpin this potential for growth and expansion. "There are a lot of opportunities for students like Vanessa to help the oil and gas industry transition" she explains. "For things to change in the world I believe there is a need to understand where other people are coming from. There is a need to find common ground and common good."

For Vanessa, being part of the mentorship programme has allowed her to take a step back and contemplate a bigger picture. “Meeting someone from a different background to my own who has had a long career has allowed me to broaden my perspective.” She maintains that Audrey has been a very grounding presence over the last year. “Talking to someone who is not in my day-to-day circle has allowed me to see things through a different angle. Audrey has been a very supporting, reassuring and validating presence and has encouraged me to not worry so much about what the future holds.”

The process also gave Vanessa the opportunity to prepare for interviews and consolidate career-goals. “It has been very encouraging to talk to someone who believes in my potential” she explains, “I am very excited to develop as a professional in a different location. Audrey went through a similar process when moving to Edinburgh from the US. I know there is a lot more I can learn from her. It has also been reassuring for me to just see her being herself and seeing her be successful in her career and her family life. Having that picture in your head of someone who has done it, and knowing that it is possible.”

This picture, according to Audrey, can be comforting for women entering a very male dominated industry and further underlines the necessity of mentorship programmes like those in the School of Engineering. “I worked in a very male dominated environment for a long time” she tells me “and we’ve talked about some of those gender issues sporadically, particularly in the context of Vanessa’s application and interview process.” Whilst the presence of mentor-figures is key for recent-graduates starting out in the industry, Audrey feels that professionals get arguably more out of the relationship than students do. “There’s a lot to learn from other people, from this younger generation and in meeting people from different backgrounds with different reasons for doing what they do.”

When asked what advice they would give to alumni and students thinking about joining a mentorship scheme, both underline the need to nurture this possibility for learning by making time to foster a connection. “Mentoring is commitment, but it has been a very worthwhile one for me” Audrey remarks, as we prepare to wrap up the interview, “What I appreciate about mentoring is that it is a two-way relationship. Vanessa has got a lot to do between now and July, and I would love to offer my availability when she starts working and help her manage this new and exciting transition.”

Are you an employer interested in mentoring a student? Please contact Philanthropy Manager Caroline Campbell at Caroline.Campbell@ed.ac.uk

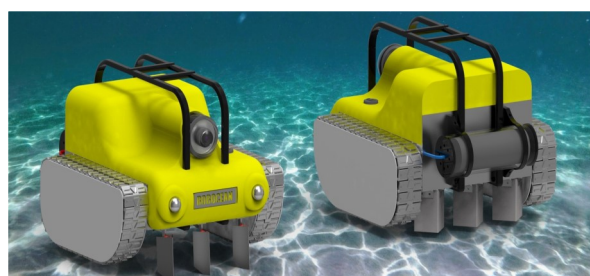
Robocean

Engineering student start-up Robocean – which works on robotics projects with an environmental focus – was recently named ‘wildcard’ winner in the Red Bull Basement 2020 competition.

3,865 international student teams submitted ideas for the 2020 edition of the competition, and Robocean – a team of nine current mechanical engineering students – reached the final stage of the competition, a global workshop.

The Robocean team propose to mechanise the process of seagrass restoration, by working on a new generation of subsea robotics – or remote operated vehicles (ROVs) – capable of crawling along the seabed and planting seagrass at the touch of a button.

Learn more about their winning idea [here](#).



A render of how ROBOCEAN might look.

Spotlight on Student Societies

The School of Engineering is home to many innovative student societies. In this edition we will focus on our Formula Student Team and Hyperloop Teams led by Oliver Hutchinson and Ewa Radzanowska respectively.

Edinburgh University Formula Student



Edinburgh University Formula Student team picture

Edinburgh University Formula Student was founded in 2014 by 10 students who had a love for engineering and motorsport to compete in Formula Student competitions around the world. Currently every year we have 100 members who take part in our society divided into two teams: our Formula Student class team which utilises an Internal combustion engine car and our Formula Student-AI (artificial intelligence) team which uses a driverless electric vehicle (EV). We are currently developing our first Formula Student class EV powertrain with the plan of running two EVs at Formula Student UK in 2021.

Our main objective is to design and manufacture two racing cars to compete at Formula Student competitions but there are also several other aspects as to why the team exists. Firstly, our members gain invaluable experience for later in their careers learning what it is like to work within a professional organisation and developing their soft skills. Secondly, gaining practical, hands on experience on manufacturing allows them to put into practice what they have learnt in the lecture hall, albeit online this year. Each year when our members see the cars run for the first time, it gives them a massive sense of pride and makes them even more determined to reach their goals.

Of course, none of this would be possible without the help from our sponsors, many which are from industry. As a team our interaction with industry is vital to our success, from sponsorship, manufacturing components to expert advice we rely on them to help us improve as a team. It is also very beneficial for our members, allowing them to interact, seek advice and network within the industry they will graduate into. Students coming back from industrial placements with organisations such as Renault F1 provide can draw on their experience to provide valuable expertise to the Team.

I would like to thank our industrial partners from this and previous years for all their help and hope they are staying safe during these times.

If you would like to find out more or get in contact, please visit our website at <https://eufs.eusa.ed.ac.uk>.

Oliver Hutchinson
EUFS President 2020-21

HYPED: advancing the development of Hyperloop worldwide.



HYPED team at the 2019 SpaceX Hyperloop Pod Competition.

[HYPED](#) is a society/research group at the University which focuses on advancing the development of Hyperloop worldwide and in the UK. We are in a unique position to have long-lasting impact on the newly emerging market with promising prospects for the United Kingdom, and we want to take full advantage of this setting by attracting public, academia, and industry to the concept. We would like that HYPED and the University of Edinburgh are referred to in the future as a birthplace and hub for Hyperloop development in the UK and worldwide.

We started as a small group of individuals interested in Hyperloop at the start of the academic year 15/16. The group then grew to 30 people and ended up earning the Technical Excellence Award for a modular subsystem design in the SpaceX Hyperloop Pod Design Competition in Texas. Since then, we have consistently placed as one of the top teams at the SpaceX Hyperloop Pod Competitions II, III and IV out of many hundreds to enter. Beyond prototyping, we conduct a number of internal technical research projects as well as supporting unique Master's thesis ideas. Our Research Team, winners of the Virgin Hyperloop One Global Challenge, is carrying out a large-scale business case study for Hyperloop implementation in the UK. Moreover, our Outreach Team has focused on introducing younger students to the excitement of Engineering and STEM by bringing real-world Hyperloop examples in the form of our pods and the science behind them to complement the often-theoretical school curriculum.

HYPED believes cooperation is at the core of its all its activities; from working in teams to collaborating with industry partners, the development of the Hyperloop is only able to progress through collaboration. Our industry partners provide the means for HYPED to create a prototype pod, lead our research, and expand our teaching about STEM and the Hyperloop technology. They give students an opportunity for hands-on experience with industry-grade software and manufacturing techniques, in order to learn how to create an industry-level design and manufacture innovative systems.

Overall, joining HYPED offers students the opportunity to connect with equally passionate, forward thinking students and industry partners, to work in a semi-professional environment, to gain experience in their chosen field, and to take part in the early development of a future transformative transportation.

Ewa Radzanowska, HYPED President, and the HYPED Team



Continued Success with Online Events

With our students continuing to be based all round the world, our series of Online Careers Fairs continued with the **Tech & Data Careers Day** on the 10th of February. Attendance was excellent with 557 students and 25 graduates checking in. Over the course of the day 552 video calls and 273 text chats and were exchanged with the 30 recruiters. Feedback from both students and recruiters was extremely positive.

“We found them to be very engaging, eager, and well-researched. Certainly lots of individuals we would like to keep in touch with/encourage to apply to our PT roles and internships” **(Recruiter)**

“Students we spoke to were better informed about our company as they had the chance to read the material on our virtual stand before talking.” **(Recruiter)**

“There were a lot of companies that I was introduced to that I would not have known otherwise. There was lots of information at each stand and if I was unsure or had further questions I could easily set up a direct video call with one of the people at the stall.” **(Student)**

As plans for fairs during academic year 2021/22 are finalised, information will be available on our website: <https://www.ed.ac.uk/careers/employers/build-your-profile/attendafair>

Graduate Jobs Fair Online open for bookings!

After the success of our Graduate Jobs Fair Online 2020, we're delighted to announce its return on Wednesday 2nd June 2021. Hosted by the University of Edinburgh and open to students from all Scottish Universities, this is an excellent opportunity for organisations who are looking to recruit graduates into roles starting in 2021, to meet work-ready students from all over Scotland, for FREE!

Book via the [event page](#) or contact employers@ed.ac.uk

Advertising your roles

We've noticed an increase in employers asking us to share adverts with our students recently. If you have any insight events, internships, placements or graduate roles that you are looking to recruit into, we can advertise them to our students for free via our vacancies database [MyCareerHub](#).

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