AUGUST 2021 VOL. 5.

# ENGINEERING DESIGN SOCIETY

### SUMMER NEWSLETTER

Editors - Elisabeth Herratt & Madeleine Silberberg With special thanks to Paul Harper, the Engineering Design Society Committee and all contributors



After a particularly challenging year for everyone, we can again look back on a huge range of achievements by our students and alumni. This edition of the newsletter is another great showcase of the diversity of this success and the strength of our course community, which has been more important than ever during recent times. The fantastic work done by the Eng Des Society has been vital in maintaining strong connections between students across the course and is definitely one of the outstanding highlights of the year.

I think everyone deserves to be congratulated for rising to the challenges posed by online learning and the resilience you have shown throughout. I don't want to single out any individuals in this article, but a particularly special mention is due to all of this year's graduates. The wide range of jobs they have secured is testimony to how they have made maximum use of the opportunities at University, both within and outside the course, to gain the skills and experience needed to pursue their individual interests and future ambitions. It was fantastic to celebrate their success through an online event at the end of July until the postponed graduation ceremony in the spring. We'll miss them very much, but they can look forward to some great careers ahead and we hope they'll be staying in touch. Very best of luck to all of them for their next steps in life!

This is my final newsletter contribution before handing over the reins of Programme Director to Paul Vardanega, who is the current Programme Director of Civil Engineering. Paul is a fantastic person to take on this role and the course will be in very safe hands. I can't express how lucky I feel to have worked with such inspiring, friendly and supportive students, staff, alumni and industrial partners during my time with Engineering Design so far and a huge thanks to all of you.

Although I'm stepping down as Programme Director, I remain deeply committed to the course and will be maintaining all my existing involvement with tutoring, the year in industry and year 4/5 projects. I'm also giving myself the new title of 'Eng Des Society Staff Liaison Officer', which entitles me to free lifelong membership of the Society and complimentary tickets for all its Social Events!

Dr Paul Harper, Programme Director

# ENG DES

IN THIS ISSUE	
SOCIETY NEWS	Page 2
STUDENT NEWS	Page 4
GRADUATE	
DESTINATIONS	Page 5
STAFF NEWS	Page 6
ALUMNI NEWS	Page 8
OPPORTUNITIES	
& LINKS	
	Page 11

# **OUTGOING COMMITTEE ROUND UP**

by Rosie Hudson, President 2020-21

I'm incredibly proud of what the Eng Des Society has achieved in a year where everything wasn't so straight forward. Though there were many uncertainties, we have achieved a tremendous amount:

- Hosted and co-hosted 20 events, including 12 alumni talks. In these talks, we've given away more than £120 of vouchers to students.
- We've published 3 Eng Des Newsletters. These truly embody the Eng Des community through celebrating not only our students and our society, but also our alumni and staff.
- · We've raised hundreds of pounds for two charities:
  - More than £400 for our newly elected Eng Des charity, St Mungo's.
  - £100 to Bristol Mind, in collaboration with other engineering societies.
- · We sold 98 pieces of Eng Des merchandise.
- · We won Bristol SU Group of the Month in December.
- We've strengthened our branding and held two week-long social media campaigns:
  - Wellbeing Week in TB1.
  - Sustainability Week in TB2.
- We've taken steps to improve the Equality, Diversity and Inclusion of Eng Des Society through a member survey and an Equality Action Plan.
- We achieved 100% member satisfaction in the Rate My Group Survey.
- We achieved a Gold award in the SU Balloon Accreditation Scheme, having never previously been accredited.

A massive thank you to the outgoing committee of Helen Inman, Maddy Silberberg, Cam McEwan, Jamie Bell-Thomas, Esi Balaban and Chloe Taylor for their efforts over the past year. Best of luck to the new committee for the upcoming academic year. I hope that, as things begin to return to 'normal', you are able to bring back the traditional Eng Des Society events and find new ways to enhance our community.









# **RUNNING THE SOCIETY IN A PANDEMIC**

by Esi Balaban, Social Sec 2020-21

As social secretaries during a global pandemic, organising socials for the EDES society members proved to be a strange yet welcome challenge. Despite the restrictions, we were still able to organise a wide range of different socials including online bake-alongs and family drawing competitions! The year was kicked off with the first Give it a Go session which was a popular tv quiz-show inspired family social for the new EDES cohort. A sequel to the social was done for re-freshers week and the points awarded were added to the family house cup competition. The most popular events were the EngDes Talk series which featured a wide range of EDES alumni talking about their engineering journey through and beyond their time at Bristol. These talks were held through Zoom and often reached over 100 attendees. During the end of year exam season, coffee break socials were introduced to give the society members an opportunity to relax and escape exam stress by chatting with other members online over a cup of coffee.

Unfortunately the final event of the year, the Engineering Design Summer Ball, was cancelled due to covid-19 restrictions. Despite this, we are certain that this will only build the momentum for the next year's socials which will ensure this society will continue with a bang in October!









# **MEET OUR NEW COMMITTEE!**



#### THOUGHTS GOING INTO NEXT YEAR

by Madeleine Silberberg, President 2021-22

Having been on the Engineering Design Society committee for the past 2 years, I have seen the society operating in both the pre and post-pandemic world. The last 1.5 years have been tough for everyone and as the world returns to normal I am so excited to lead EngDes Society into this new chapter.

Keep your eyes peeled for traditions like the family cup, spoons challenge, slip n slide and curry night. We have an exciting range of people planned for the upcoming talk series. We have taken the decision to continue to have talks virtually in term 1 as zoom is more accessible to a greater number of people.

EngDes embodies innovation and community, so we are excited to reveal some new initiatives we have been working on. For now we'll keep that a surprise for next term...

Finally we will be able to host the 15th Anniversary Ball which I am beyond excited about (having helped to organise this twice already now!). Students, staff, alumni and all friends of EngDes will be invited to celebrate everything that makes EngDes so special. It will be great seeing our recent graduates from the past 2 years. Hopefully, everything we have planned for the Ball will make up for the distinct lack of celebration you all experienced.

Hopefully everyone is excited for what is to come, because all of your committee certainly are!

# A SNEAK PEAK AT OUR UPCOMING SOCIALS

by Emmet Richardson, Social Sec 2021-22

We can't wait to get into organising events for the society now that we are (hopefully) free of restrictions. There are already a few plans in the works for this Summer and the start of term including the annual slip-n-slide, welcome drinks and family dinners. A big one to look forward to this year is the EngDes anniversary ball next June; it should be a great event with lots of alumni, lecturers and students. We're so excited to welcome another cohort of EngDes to the family and hopefully we'll be able to make their first year even better! Keep an eye out on the EngDes social media pages for more updates on events and we look forward to seeing you there.



### **Family Dinners**

We hope to bring cohorts together next year with the return of family dinners.



### 15th Anniversary Ball

It's been postponed twice already but this is the year! Get excited because the Anniversary Ball is back and it's going to be bigger than ever.

### STUDENT NEWS

It's been a trying year for all students across cohorts but even with Covid restrictions some first years have managed to put some of their learning into practice. Meanwhile two students win RAEng scholarships and the fifth years move on to the next exciting chapter of their lives.

### **SEDS Rocket Project**

At the beginning of the year, a few engineering students and myself joined Students for the Exploration and Development of Space and entered the national rocketry championship. The rocket we designed aims to be a safe and efficient way for firefighters to spot wildfires. The on-board payload captures video during descent and sends it in real time for analysis.

After our exams, we spent the following month prototyping, testing, and building the rocket. We transformed our living area into a mini workshop where we did lots of sanding, drilling, and composite layup. After many failures and nearly setting things on fire, we managed to produce two body tubes that were of flying quality. Shout out to Alex Sheard who helped us 3D print the nosecone. We couldn't have

launched without it!

On the day of launch, we set up areas of tin foil as bright spots for the rocket to spot. As we pressed the launch button, the rocket shot high up until it went out of sight. The parachute then deployed, and the rocket descended. As we approached the landed rocket, we realised that the on-board electronics and body tube had separated and flown away leaving us with only the payload bay.

Although the launch didn't go ideally, it was overall a great experience and I look forward to doing more projects in the future

Angeline Pang, Year 1





### **RAEng Leadership Awards**

This year 2 Engineering Design Students, David Exton (Year 3) and Maddy Silberberg (Year 4) were awarded Royal Academy of Engineering (RAEng) Engineering Leaders Scholarships.

The Engineering Leaders Scholarships (ELS) programme aims to provide support for undergraduates in UK Higher Education Institutions (HEI) who have the potential to become leaders in engineering and who are able to act as role models for future engineers. These scholarships help ambitious and inspiring undergraduates in engineering and related disciplines, who want to become leadership role models for the next generation of engineers, to undertake an accelerated personal development programme. 35 scholarships are awarded annually; David and Maddy will be joining the ever-growing pool of EngDes past and present who have received the accolade.

"I was delighted to find out about receiving the award. I can't wait to start putting the scholarship towards achieving my ambitions of being a leader in sustainability and eventually founding my own start-up. My year in Industry at LettUs Grow definitely had a huge impact on my application for the award as I discovered my passion for sustainable start-ups and got lots of opportunities to develop my leadership skills."

- Maddy Silberberg, Year 4

"I'm really looking forward to the networking opportunities granted by the scholarship; hearing from previous recipients the community is very active and engaged in lots of cutting edge engineering. I hope to use the scholarship to fund personal engineering projects, to develop my practical skills. I also want to travel and learn about how my engineering skills could be applied in less developed countries. I'm very grateful to the RAEng for the opportunities they have made possible, and hope to be able to share my experiences."

- David Exton, Year 3

### IET Diamond Scholarships and Horizon Bursaries

Congratulations to Engineering Design students Emily Burt, Isabel Dodd, Bethan Elliott, Ella Lovibond, Emma Quekett and Emmet Richardson for being awarded IET Diamond Scholarships. Congratulations also to Aishwarya Bandaru and Aseel Salih for being awarded IET Horizon Bursaries. The IET Diamond Jubilee Scholarship is an academic scholarship for engineering students across the UK. Recipients receive between £1000 and £4000 per year as well as membership of the IET. The awards are given out based on academic achievement and passion for engineering and are designed to help students focus on their studies during their time at university by providing funding for books, equipment, and other university expenses.

# **2021 GRADUATE DESTINATIONS**



Screenshot from the 2021 online Eng Des graduation



### Wilf Stoddart - Clarasys

Having recently graduated, I have just started a new and exciting role at a management consultancy firm called Clarasys. It is a young, medium sized company with strong values of honesty, integrity and striving to provide value to their clients. They specialise in customer experience and using an agile methodology (a lot of buzz words I know). Some of their previous clients include Nuffield Gyms, the NHS and Dominoes. It's been amazing so far and it kind of feels like the Eng Des of the consulting world. If you're considering management consultancy, look them up or pop me a message and I'd be happy to chat.



### Helen Inman - Swytch

Following on from 5 amazing years as an EngDes student with a wonderful cohort I am now working as an Engineering Graduate for Swytch in London. Swytch is a company cofounded by Oliver Montague and Dmitro Khroma (an ex-EngDes student!) which sells eBike conversion kits which are easy to fit and work on any bicycle type. I have only been working for a fortnight at Swytch and am already finding the work really exciting. Swytch now has almost 40 employees, and I am honoured to be the first official graduate engineer at the company – this means I get to do rotations around the company over the next year. At the moment I am working in the

Operations, Manufacturing and Quality teams where the work is varied and really interesting. In the next year I will have opportunities to try R&D, marketing and more. I am really enjoying the start-up way of life and the ability to own projects, plus having had a very thorough test ride on a Swytch kit I can safely say that it's a very fun thing to ride and work on!



### **Chloe Taylor - Arup**

I started my placement year at Arup almost three years ago and had such a great experience that I decided to return as a graduate. I am going into the Civil Engineering team, which acts as integrators between other disciplines within Arup, such as buildings, geotechnics, water and transport planning. I'd like to think that all the multi-disciplinary design projects I've undertaken during my five years of Eng Des have prepared me well to act as a collaborator! One thing I enjoyed during my placement year was the variety in project work which I was involved with. I'm looking forward to working on a range of projects, from initial concepts to detailed design, and from small private sites to large public spaces. The bulk of my work

design, and from small private sites to large public spaces. The bulk of my work varies between masterplan development, sustainable drainage designs, flood risk management, pavement designs, earthworks assessments and utilities coordination. I hope that in this I can put to use some of the tools and techniques I learnt during my degree – especially surrounding sustainable infrastructure design, systems thinking and digital skills. Aside from that, I am excited to be living in Bristol as a fully-fledged graduate, alongside a couple of my Eng Des coursemates. I also can't wait for Arup's football league to start-up again - I sneakily continued to play during the last two years of my degree so it will be nice to play as an Arup employee again!

### **STAFF NEWS**

### Paul Harper hands over directorship to Paul Vardanega

Paul Harper has played a huge part in the Engineering Design family for many years now and although we're sad to see him step down from the post of programme director, we're so grateful for what he has contributed to the course. Paul means so much to so many of the Eng Des family and as Jon Sims Williams rightly puts it in the memory album gifted to Paul at a Zoom celebration, "Very few programmes can get 100% satisfaction ratings from students and that is largely due to the huge effort you have put into helping students with any problem they might have — never too much trouble!".

We've put together some of the highlights of Paul's career so far.

### **MEng Aerospace Engineering**

University of Bristol, 2000-2004



# PhD in Composite Materials and Fatigue Failure

University of Bristol, 2004 - 2008
Paul also develops a new University
module on Wind & Marine Power in 2008.

### Research Assistant

University of Bristol 2008 - 2010 Research assistant on developing structural analysis techniques for tidal turbine blades



# Paul cycles the length of Wales then wins a marathon

2009

All to raise money for Engineers Without Borders and Water Aid







# Starts lecturing in Engineering Design University of Bristol, 2010





University of Loughborough, 2011

### Paul wins Engineering Students' Award for Outstanding Educator

University of Bristol, 2019



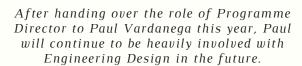
# Appointed Programme Director of Engineering Design

University of Bristol, 2018

# Hands over role of Programme Director of Engineering Design

2021

Cue a zoom celebration for Paul's contributions to Engineering Design and a photo album with messages from students, staff and alumni (e-book version available).



# A SELECTION OF MESSAGES FROM STUDENTS, STAFF & ALUMNI

Ben Altwasser, Cohort 1/EngDes Guinea Pig Dear Paul, Thank you for your leadership and hard graft over the years to make Engineering Design what it is today. Every dealing with you has been an absolute pleasure and I wish you well in your next yenture. Regards. Ben

Roz Okatan, Ex-EDES Student Administrator
Paul IS Engineering Design! His dedication to the
programme and to the welfare of the students, the
staff and the industrial partners is incredible - I
don't know how he finds the time to do it all but
suspect he never sleeps. Paul, please take some
time out for yourself this summer! You will be
greatly missed as Programme Director but I know
you will still be an integral part of the team,
ensuring that students have a great experience on
the course. You are a star!!

#### Eleanor Harman, Cohort 18

Thank you Paul for everything you have done for us and all the help you give us on a daily basis - Thanks to you, Eng Des has been made to be such a wonderful experience for so many of us!

Ben Crowther, Cohort 11

Paul, Your support for all of us through out the course and beyond is second to none. I can't thank you enough for the help with LettUs Grow too. It has made a huge difference to me personally and professionally. Thank You!

Dan Rodrigues, Cohort 17

To Paul

Thank you for being a fantastic Course Director, and for fostering such an amazing community within EngDes. The level of dedication you have for the course, and for each and every student is unparalleled, and I count myself lucky to have been a part of it. I am especially grateful for all the help and support you have provided me over the years, be it pastoral or professional — you really went above and beyond, and I quite frankly wouldn't be where I am today without you. I hope this change helps lighten your load a little, and that you're finally able to put some of your own advice into practise, strike a better work-life balance for yourself, and get some earlier nights too!!!

All the best, for now and for always. Dan

# **ALUMNI NEWS**



### Glasgow, Paris, Sydney and beyond

After graduating and taking a gap year, I started working at Frazer-Nash Consultancy in Glasgow. Frazer-Nash is a multidisciplinary engineering consultancy so I've had the opportunity to work on a wide range of projects in a number of different industries. I am most interested in renewable energy and therefore the majority of the work I've been involved in has been within the energy sector. A highlight was working for a major wind turbine OEM during the detailed design phase of three different floating offshore wind farm pilot projects in France. I was working with the project developers and foundation designers on turbine-foundation loads integration. This resulted in meetings full of pastries in Paris and a hotel room with a view of the Eiffel Tower. It could have been worse...

More recently I've moved to Sydney with Frazer-Nash. My life has changed from climbing up Munros in Scotland to learning how to surf, diving with sea turtles, snorkelling on the Great Barrier Reef, attempting to avoid dangerous animals and bathing in factor 50 (as well as a bit of engineering).

Lara Tulloch







### From EngDes to a PhD in Artificial Intelligence

After deteriorating from a proud member of EngDes cohort 14 to an MSc graduate in computer science, I've remained sufficiently in love with the city and University of Bristol to pursue a PhD in artificial intelligence since 2019. My research explores how we can understand and explain the behaviour of autonomous learning agents, whose internal mechanisms and representations may be very different from our own, with a particular view to revealing the biases and flaws in their decision-making. I'm increasingly focusing on so-called "reinforcement learning" agents as the targets of my analysis, and I'm currently working on a project to enable non-experts to train such agents using a simple and transparent feedback mechanism.

I've recently had the honour of being offered a year-long secondment at the Alan Turing Institute in London, the UK's national institute for data science and artificial intelligence, starting this October. It will be an incredible opportunity to learn from and collaborate with world-leading experts from across the country, as well as other junior researchers working on similar problems to me. Although I can't predict what exactly the next year will bring, arriving with an open mind will maximise the benefit I get from one of the most exciting research environments on the planet. More importantly, I hear they have a rather snazzy coffee machine.

If any current students or alumni are considering a career in AI or machine learning, feel free to get in touch for a chat!

Tom Bewley

"Tom has once again been providing amazing support to the Design Project 2 and Design Project 4 units this year and will be sorely missed next year as he undertakes his secondment. A huge thanks to Tom for his fantastic contribution to the course and many congratulations on his recent engagement!" - Paul Harper



### Vancouver's renewable start-ups

Upon graduating in 2017, I set off for Vancouver that autumn, and after dipping a toe into several odd jobs I found myself working for Portable Electric as employee number 9. Here was a budding cleantech startup supplying portable lithium-ion battery power systems to the events, festivals, and disaster relief sectors, and I was charged with managing the rental operation. Travelling the region, getting to meet all sorts of creative people, bringing them a novel, exciting technology, and reducing CO2 emissions in the process – what's not to love? I then transitioned into a more technical role as a manufacturing engineer, which meant managing suppliers, developing production lines, and conceiving a quality management program, among many other things – such is start-up life!

Post COVID, I moved to Clir Renewables, a more established start-up, as a Project Engineer. We analyze renewable energy data and produce actionable analysis for our clients - wind and solar farm owners/operators. I was able to visit a local client of mine recently, and although a trip up a wind turbine tower still evades me, it was awesome to see a farm close and in operation.

On any given weekend, I'll be ski touring in the Whistler backcountry, paddle-boarding/camping at one of the many lakes in BC, or making tables, my "other job". Life is pretty good.

Oscar Radevsky EngDes 2012-2017 Project Engineer, Clir Renewables







Many congratulations to Nikita on her recent marriage to Joe Steventon

### Project Managing at Crux

I graduated from Engineering Design in 2018 (back when the world was fairly normal!) and worked for a couple of years as a Systems Engineer in a start up aerospace consultancy in Bristol called Novel Engineering. My time at Novel was really great as I got to learn so much about the aerospace industry and was given a lot of responsibility early on in taking research through the Technology Readiness Levels – definitely one of the advantages of small companies!

I wanted to continue broadening my experience so shifted into the medical industry where I now work as a Project Manager at Crux Product Design. Crux is an engineering and design consultancy based in Bristol and works with some of the biggest Pharmaceutical and Fast-moving consumer goods companies. What attracted to me to Crux (other than their snazzy website!) was their primary focus on the end user. Crux have a Human Factors team that work closely with the mechanical and electronics engineers to ensure usability is considered throughout the design process.

As a Project Manager at Crux I look after about five projects at any one time. This could range from a 3 month drop test FEA analysis project to a 2 year full medical device development programme. I love all the problem solving that goes alongside juggling multiple projects and that I get to work on all parts of the engineering design process!

Nikita Steventon EngDes 2013-2018 Project Manager, Crux







### EngDes shaping the future of the campus

After graduating from EngDes in 2016, I joined Arup as a graduate working in the Transport Planning team in their Bristol office. Fast-forward a couple of years and several major infrastructure projects honing my skills later, and I was really excited to get the chance back in 2019 to start work on something closer to home: the University's new library. Specifically, the design and assessment of the new pedestrianised 'heart' of the campus, created by closing Woodland Road to cars between The Hawthorns and Senate House.

For those unfamiliar with Transport Planning as a discipline, we are responsible for shaping how we move around, by all modes of transport, and at all scales, drawing on a combination of civil engineering, behavioural psychology, environmental science, economics and more. To me, working at the intersection of all these disciplines aligns perfectly with the skills you learn in EngDes and was great preparation for solving some of the problems we came across on the project (so far), which ranged from:

• Will the U1 bus fit round this corner? (in theory according to the CAD, yes, but let's drive one round anyway and see if we hit anything);

 How many students will be crossing the square to go to the new Senate House food court at any one time? (the answer was in one year of U-card data from the ASSL turnstiles);

 How do we stop cyclists and pedestrians crashing into each other as they move through the square? (difficult, but some subtle design features help reduce cyclists' speed but still provide safe crossings for blind pedestrians);

 How do we convince parents at Bristol Grammar School that they can in fact still drive their kids to and from school easily (even more difficult... but undertaking a cordon survey using number-plate recognition cameras allowed us to show what routes traffic actually takes, and so model the impact once the road was closed);

 And of course, how do we get the project over the line in the middle of a global pandemic? (lots of Zoom calls unsurprisingly).

If you haven't already, be sure to take a look at the <u>designs</u>, which I think represent a good balance between movement and place and will make a welcome improvement compared to the current road layout. Let's just say the opinions on the architecture of the library building itself are a bit more polarising, being likened to a 'monstrous carbuncle' by one Councillor! I'll stick to transport planning thanks.

Thankfully though, after a drawn-out planning process we were successfully given planning permission in March this year, and I look forward to seeing it opened for students in a few years' time, knowing that I've made a slightly more permanent mark on the University than some of the stains on Lizard Lounge's carpet.

Robbie Henley, EngDes 2011-2016 Transport Planner, Arup (Bristol)



Photo credit: Grant Associates / University of Bristol

# **OPPORTUNITIES & USEFUL LINKS**

By Elisabeth Herratt

### **Bristol PLUS Award**

Got work experience this summer? It can count towards your Bristol PLUS Award.

The Bristol PLUS Award is great scheme that adds an extra boost to your CV. It's very accessible for all years of EngDes students and especially those who are planning to complete or have already completed paid work experience.

Find out more **here**.

### Mental Health Check-In

Unviersity is stressful. Here's a long list of <u>mental health services</u> available that the university have compiled which include:

- VitaMinds
- One-to-one counselling: if you want support from a counsellor or adviser with a specific background, gender identity or ethnic minority, you can.
- ethnic minority, you can.
  TogetherAll: A safe space where you can share and get help from others like you. Free with a student email address.

### Careers Website

For vacancies, internships, part-time work and graduate roles visit the Bristol careers website **here**.

# Engineering Employability Blackboard

Are you looking for a summer job? Placement? Need some advice on what makes an outstanding CV? The Engineering Employability Blackboard page has all the information you need.

Login to Blackboard first then click here.

### **Laptop & Mobile Clinic**

The laptop and mobile clinic is a free service to help students who are having problems with laptops, tablets or smartphones.

Click **here** if you need tech help.

### **Apply for a Bristol Mentor**

Bristol Mentors is a programme that matches successful applicants with a mentor who will guide and support each student throughout the 2021/22 academic year.

You will need to be a home UK undergraduate student not in your final year of study and must fulfil at least one of our eligibility criteria.

Find out more **here**.

# ONE LAST THING FROM US...

Thank you for taking the time to read our summer newsletter! Make sure you're following us on social media to keep up to date with competitions, events, talks, socials and more! And check out <u>our page</u> on the SU website where you can buy membership and tickets for events throughout the year.

If you would like to join the alumni group on LinkedIn, please email paul.harper@bristol.ac.uk so he can invite you to join.



@engdesbristol



Members group Eng Des page



engdes-committee@bristol.ac.uk



**Bristol Engineering Design Society** 

The easiest way to get in contact with us is via email at engdes-committee@bristol.ac.uk.