Although the last few months have been challenging for everyone, we can still look back on an extremely positive year for Engineering Design. This newsletter shows the huge range of achievements students have made both through the course and in their extra-curricular activities. As always, it has been inspiring to see the tremendous efforts people have made to help others, especially during the recent COVID-19 pandemic, by raising money for charity and getting involved in voluntary activities. Our industrial partners and alumni have also continued to go above and beyond to support the course by giving guest lectures and mentoring students, as well as taking on placement students and supervising projects. The best news of all has been Bill’s full recovery from cancer and I’m still hoping that he can be persuaded to help with next year’s placement assessments – don’t worry Bill, I know the answer!

We will soon be saying a very sad farewell to Jon Sims Williams when he begins his retirement at the start of August. As well as being one of the main driving forces behind the creation of the Engineering Design course, Jon has played a vital role in shaping its development throughout the last 20 years. On a more personal note, my first (and hopefully last) proper job interview was with Jon and I’m relieved to say that the questions he asks potential staff are far nicer than those he unleashes on potential students! It is impossible to put into words how much Jon has given to the course and I’m sure he will be keeping a close eye on us in the future. The current staff have every intention of doing his hard work justice and ensuring that the course continues to evolve, whilst retaining its core aim of developing high calibre engineering leaders with the skills needed to tackle society’s major challenges.

After a difficult end to the 2019/20 academic year, we can now look forward to much brighter times ahead, starting with an online Engineering Design graduation event on 29th July and a retirement event for Jon on 3rd August. We will be posting details of these on the Alumni Linkedin Group but please contact me if you don’t have access to this or would like further information. We can also look forward to the postponed Engineering Design Ball in 2021, which will be a great opportunity to mark Jon’s retirement in person and to celebrate the strength of the course’s community of students, staff, industrial partners and alumni.

A huge thanks to everyone for your fantastic efforts to support the course over the last year and I hope we can look forward to an even better one ahead.

Paul Harper, July 2020
The Engineering Design (ED) Society hosted a range of talks in collaboration with the Innovation Design (ID) Society during the past academic year, with free pizza available to those who attended. We would like to thank the large variety of speakers who contributed and we will be looking forward to hosting more talks next year.

This year has also been full of fun events, which have been experienced by the whole society. We started the year with our traditional family dinners, where the first years were able to meet their families for the first time. We have hosted a range of other events, some more traditional such as our ‘Wetherspoons takeover’, where all four Eng Des families face off to see who can be the first to finish an entire student deals booklet. We continued our strong tradition of a Curry night, trying out a new venue in Oh Calcutta and our Pub quiz hosted at the University’s very own Balloon Bar. Other events have been the first of their kind, like when Eng Des headed to the apple to take on the ‘Ten Before Ten’, or during the very first inter-engineers touch rugby tournament in collaboration with Mechsoc, BEMS, Civsoc, Aerosoc and Touch Rugby Society.

We hosted our Winter formal with a sold-out event that we would like to thank the Square Club for hosting, as well as Lola Lo’s for having us afterwards. We hope we can be back soon once everything has returned to normal.

There was some disappointment this year as we were forced to postpone our 15th Anniversary Ball due to the current pandemic. However, we are very much looking forward to seeing what the next committee come up with so we can celebrate twice as well next year.

ID and ED committee members pictured with guest speaker, Sam Crawley a lecturer in the Centre for Innovation & Enterprise at the University of Bristol. Who spoke about his experience with NGOs in projects in Somalia and Cambodia, as well as his experience being a Chartered Engineer and working on offshore wind projects around Europe.

We are really excited for the year ahead - to continue the work of last year’s committee (although probably online). We are especially looking forward to reorganising the 15th Anniversary Ball, to bring past and present students together and to give the most recent graduates a good celebration to end their Bristol experience. - Rosie Hudson
STUDENT NEWS

There have been so many achievements by our students over the past year that it would be impossible to cover everything, but here are a few highlights:

- **4 IET Diamond Jubilee Scholarships** awarded to our first year students (Ellie Carey, David Exton, Jamie Bell-Thomas and Monique Gunter)
- **8 RAEng Leaders Scholarships** out of 35 awarded across the UK (Angus Firth, Ari Biggart, Sam Tiller, Alex Sheard, Rosie Hudson, Nicola Graham, Zara Burton and Oscar Bond). This means that in the last two years, 25% of these awards have gone to Engineering Design students, which includes almost half of our current year 4 cohort.
- **Top General Engineering Course in the Times and Guardian University Guides** and second in the latest Complete University Guide (1st for Student Satisfaction and Graduate Prospects).
- **100% Overall Student Satisfaction** in the latest National Student Survey (2020) for the fifth year running.

During lockdown our students have been getting involved with lots of interesting projects; here are some of their personal experiences:

**Circle-R**

This summer a team of 8 students and graduates are working towards launching a brand new company named CircleR based upon the Circular Economy principles of Reusability. We believe this business is going to be the future of online supermarket shopping in Bristol and we hope to expand to other areas soon! In a nutshell the company aims to deliver groceries and household essentials in reusable packaging, delivering and collecting empties from the previous week with emission-free e-bikes.

The company began with a pilot scheme during the start of the COVID-19 lockdown using customers’ own Tupperware packaging and it indicated that Bristolians had a desire to shop in a more sustainable way (epigram link). The current CircleR team consists of Enrico (an EngDes graduate!) and Claudio Varano who are the company’s co-founders; three Engineering Design fourth years working to build the operations capability: Milo Eadie, Sam Tiller and Helen Inman; Eleanor Vaughan studying Economics at Bristol, Umberto Pepato and Sofia Peressotti who are leading marketing, website development and product development respectively.

As I write this the company is almost two weeks into development and problems and solutions are being found at an equally impressive pace. We are learning a lot, developing quickly and are excited to partner with suppliers and deliver our goods around Bristol in packaging which can be reused and infinitely recycled. Watch this space @circle_r_store/ https://circler.co.uk/!

*Helen Inman, Year 5*

**Remix Robotics**

The Engineering Design course allows students to gain valuable industrial experience through a variety of placement opportunities and for me and many others, this year is no different. Lara Dodd, Angus Firth, Omar Rashed and I have recently started a placement at Remix Robotics, an automation and robotics London based start-up founded by three Engineering Design alumni, Jack Pearson, Glen Cahill and Alex Michaels, who graduated from the course in 2016.

Since starting the placement four weeks ago, I have dived headfirst into the start-up way of life. The other three interns and I are working on a new business opportunity within the food industry, allowing me to gain the entrepreneurship experience I have been lacking. The team are currently undergoing customer interviews and developing customer profiles and hypothesis tables to allow us to identify any gaps in the market. I have also managed to experience prototyping, manufacturing and testing, which hadn’t been possible at the larger consultancy firms I worked for during my summer and year placements.

I now realise that one of the most valuable benefits of being part of Engineering Design is the community and connections available to us between the academic years and alumni.

*Alex Reeve, Year 5*
COVID-19 Student Response Network

The charitable sector is one of the worst hit globally by the effects of COVID-19. In response, the COVID-19 Student Response Network (CSRN) has been set up in a collaborative effort led by student consultants from UK universities and it was founded by University of Bristol Economics students. The scheme connects students with a range of charities to provide support in navigating the challenges brought about by the COVID-19 pandemic. They provide services to over 50 charities, ranging from management strategy design to data analytics and machine learning.

I have teamed up with 3 other UoB students to support Student Minds, the UK’s national mental health charity, over approximately a 6 week period this summer. Our work is overseen by a senior consultant who (by sheer coincidence) happens to be Eng Des graduate Harry Garstka. The goal is to help Student Minds better understand what students want to see from their University institutions and Student Unions in terms of mental health provision for the next academic year, particularly in the context of COVID-19. Working closely with a CSRN student data team, natural language processing will be used on the results of research carried out by the team in order to identify key trends. These insights will inform strategy proposals for Student Minds as well as informing their outreach programme looking to the next academic year.

Rosie Hudson, Year 5

Electric cookstove project

Despite many of the Engineering Design first years having unfortunately lost out on internships given the current situation with COVID, they have remained busy with a research and design project over summer. The first years have been instructed to design an electric cookstove, suitable for off-grid communities in some of the world’s poorest nations. The design project kicked off with talks from Engineering Design alumnus Will Clements, who is currently undertaking a PhD researching the feasibility of electric cookstoves powered by micro-hydropower mini-grids in Nepal, and from Dr Jon Leary from Loughborough University, who is part of the Modern Energy Cooking Services (MECS) research programme.

The use of traditional fuels for cooking releases harmful gases and is responsible for three to four million premature deaths every year according to the World Health Organisation. Women and children are disproportionately affected by the health impacts, as they are most often tasked with cooking and collecting firewood or other fuel. Costs of gas and biomass fuels are increasing, and the use of wood fuels is contributing to deforestation and climate change around the world.

At the end of the 10-week design project, each group will present their final proposal, including CAD model, energy calculations, details of materials and manufacturing, and costs. Each project group has supervision from current engineering fourth year students, who are helping to guide the first years through the design process, from specification to final proposal.

Chloe Taylor, Year 5

Visual Acuity Testing Application

For the past couple of months or so I have been working with a Cambridge company to create a web-based visual acuity testing application, designed to reduce the need for in-person tests and visits (the majority of which have mostly been cancelled due to Covid-19). The system allows people to conduct a standardised test in their home with everyday items. The software has recently been certified as a Class A medical device and gained CE marking and is about to undergo clinical trials and will soon start to be offered to eye care professionals for free.

Alex Toff, Year 3

YEAR 5 SPOTLIGHT

This year we say goodbye to our 15th cohort, with final projects ranging from ‘Robotic Device Solutions for Volcanic Exploration’ to ‘Innovation in Offshore Monopile Installation’. All projects were of a very high standard, with great feedback from the industrial partners. All of our graduating students should be exceedingly proud of themselves. To see the final year project posters and presentations follow the link below:

Click here for final year posters and presentations!

We wish all of our Year 5 students the best of luck with their future endeavours. We could not include details of all of our graduating students’ plans for the future, but read on for a snapshot of what some of them are going on to do in the coming months.

Frances James - Self Sustainable Community on Evia island

I will be joining a self sustainable community on Evia island, Greece where for two months I will support the design and build of eco buildings for the community and attend lectures on: Ecodesign tools, applications of renewable energy sources, permaculture, natural cultivation and ecological building design.
Patrick Sullivan - EngD with UoB and NCC
I feel very grateful to be starting an EngD in a topic I’ve always pursued wherever possible inside or outside the course. I first came across the term ‘circular economy’ while on my summer placement after first year, having been introduced to it by a colleague. They gave me a reading list, linked me to the Ellen MacArthur Foundation, and from then it has been my go-to conversation, whether in Queen’s Café or at the pub. It was my subject for the Research and Communication unit in fourth year, and to be able to solely focus on the idea for the next four years is beyond exciting.

To do so at the National Composites Centre (NCC) as well, where I spent a summer placement last year, and to be able to continue working in the developing, high-tech field of composite manufacturing is ideal and proof that the industrial focus of EngDes is a huge advantage when looking for graduate opportunities. My research title is the ‘effective use of recycled composites’ and I will be conducting life cycle assessments on commercial projects to understand the environmental, financial, and material impacts of the recyclates compared to their virgin equivalents. Hopefully, the results produced will be key evidence for the beneficial use of composite recyclates and encourage more companies to feel confident in using them ahead of alternative virgin materials.

Tom Kilcommons (Treasurer 2018-20) - Newton Europe
Following five super years of EngDes, I’m excited to be starting as a Consultant at Newton Europe! With a healthy amount of time off beforehand, I can’t wait to get stuck in. I’m particularly looking forward to working across a range of sectors, from health and social care to defence projects. Newton are operational improvement specialists, which means figuring out and implementing impactful change in organisations. It’s not about writing reports – it’s about working side-by-side with client organisations, understanding their people and processes, and ultimately enabling them to deliver their own sustainable change.

Lara Dodd (Social Sec 2018-19) - Remix Robotics and Carv
It was an odd and slightly daunting feeling leaving Bristol for the last time, having just completed 5 fantastic years of EngDes and entering the bizarre dystopian-esque world of COVID-19. However, to my surprise, even in a time of apparent economic turmoil, there are still countless opportunities out there for everyone! I am currently working alongside some wonderfully talented EngDes veterans (Jack Pearson, Alex Michaels and Glen Cahill) in their start-up company: Remix Robotics. I am about half-way through my 8 week summer placement here and have enjoyed every ounce of experience that I have managed to soak up. Read Alex Reeve’s piece on page 3 to find out more about our experience here as summer interns.

The fun does not stop there however! A couple of weeks after finishing this placement I will be starting a new role as an intern at another start-up: Carv. Carv’s product, a smart ski boot insole, is the first ever wearable tech dedicated to improving the wearer’s ski technique – a digital ski coach. As a skier myself, I know that the perfect technique is tricky to maintain year after year without bad habits niggling their way back in. I know so many skiers who want to develop their skills but who don’t have the time or money for consistent lessons, so helping to develop a product which elegantly fills this gap in the market is something that I am super excited to be involved in!

My internship at this company can be split into 3 parts: China, Austria and London. In China, I will be working in the silicon valley of manufacturing: Shenzhen. In our HAX offices here, I will be working with the hardware team and our manufacturers to develop the CARV product and optimise our processes. I feel very lucky to have landed the opportunity to go to China and to learn about the manufacturing side of a start-up. As an avid skier however, the next stage of the placement in Austria, is equally exciting. Here I will be acting as the engineer on site in the Innsbruck ski resorts and hopefully fixing any maintenance problems that may crop up whilst skiing and testing out the CARV product. The final stage, in London, will involve putting my technical engineering skills to good use and working out ways to refine and develop the product for version 2.0. If it wasn’t for EngDes shaping me into the T-shaped engineer I am today, I would never have been able to fill the shoes of such a holistic role and experience this fantastic opportunity.

Andrew Barry (Secretary 2019-20) - Regen and Belltown Power
I’m currently working for Regen, a renewable energy policy consultancy located in Exeter – but I’m working remotely and so am yet to meet any of the team in person, which is pretty weird (it does have the advantage of not having to leave Bristol though…). I had intended to take more time off post uni, but I was really keen to get some experience with Regen as they sit right in the heart of the industry I want to work in – so despite not having much of a summer break, I’m really pleased to have the opportunity!

After I finish with Regen in September I’ll be starting another internship at another renewables consultancy, Belltown Power, which is located in Bristol and I think has been a popular placement company with a few eng dessers in the past. It’ll be very different to Regen, with more of a focus on investing in, building and managing renewable power plants, but I’m looking forward to gaining more exposure to the renewables sector. Hopefully at some point after that I might have my ‘summer holiday’ in the form of a ski season (corona permitting…).
The Engineering Design Programme – its inspiration and goals

The idea for the Engineering Design programme came from a group of visiting professors, most notably Chris Elliott of Pitchill Consulting and Mike Shears of ARUP. They came to the faculty over a number of years in the 1990s and we asked them to tell us what the Engineering Faculty could do for UK Ltd. Eventually they came up with the statement:

“No university degree is preparing graduates to be leaders of Large Multi-disciplinary Engineering Projects – there is a need for this sort of preparation”

For the University and the Faculty, the concept of a degree which did not have academic goals but was aimed at developing people for a significant role in the world was novel. The goal of developing Engineering Project leadership was however excellent. It led to the idea that the degree would develop skills and attitudes rather than just knowledge. We listed the skills and understandings that one would look for in a leader of a multi-disciplinary project:

- **Broad conceptual understanding** – engineering, business, social/environmental issues
- **Excellent communication skills**
- **Experience in working in multi-disciplinary teams** – Inter-disciplinary Projects
- **Specialist competence in one sub-discipline of Engineering** – essential for a first job
- **Experience in applied and practical engineering – placements**

and then developed a programme structure to help students acquire them.

The core idea was that we would recruit students and then encourage them to specialise in one area of engineering. So, the faculty had six single discipline departments and students could choose, after a common first year, to specialise in any one discipline. In this way we developed the ability to run multi-disciplinary projects which were sponsored by our partner companies. Because the teams working on projects had different specialisations, the teams would help educate each other in all the disciplines. In multi-disciplinary projects, the classic place for failure is at the boundaries between the disciplines; so the leader must understand enough about the different disciplines to be able to question each team member about their speciality. An essential feature of the projects was to examine if the resulting design was financially viable; and some project sponsors were told that the team had been unable to find a viable design.

A unit called Research & Communication was developed to help students develop communication skills and to gain an understanding of disciplines other than the one in which they had specialised. Students gave talks on their own discipline’s concepts and also on challenges that are facing the world today.

The fact that Engineering Design students have been awarded more Royal Academy of Engineering Leadership Awards than any other degree programme, suggests that we got some of it right!

The introduction of a mandatory unit on Entrepreneurship may have helped graduates become willing to start their own companies. Irrespective of the cause, there have been several companies launched by students of the programme over the last few years and they have been remarkably successful and have added to the programme’s profile. When the programme was launched in 2001, it was an unusual degree programme and we attracted some very bright students. This led to the programme attracting attention. Initially, the number of applications for the programme was about 60; but students’ attitudes changed and by 2013 we were getting 120 applications. We now attract about 300 applications. The goals of the programme means that we need to recruit a different sort of student, students who know what they want and are willing to work hard to get it. They are rewarded by being allowed to individualise their studies much more than in most programmes and to work on projects that industry wants today.

Jon Sims Williams, Senior Teaching Fellow

A catch up with Bill Hadall

When we met back in October last year, who would have predicted the way all our lives were going to change in 2020. We are now all getting used to doing things remotely (meetings, learning, assessments and much more), to social distancing and now wearing masks. But engineers are innovative and good at coping with and managing change, and I guess that you have already been thinking about how engineers can help industry and society deal with some of the new issues facing the world.

As for me, I am keeping well, as is all of my family; my chemo finished last November and my recent scan has shown that I am clear of the lymphoma, but I’m still shielding. I have my hair and beard back (wonderful, though I now need a haircut) and holidays are still on hold - roll on next year.

What is most important now is that we all do whatever we must to keep ourselves and others safe, and to take care of our own well being. Your end-of-year celebrations might be a little muted this year, but there is still much to look forward to. I wish you all the very best.  Cheers, Bill

Bill Hadall, Former Engineering Design Industrial Liaison Officer
Mike Tierney - A message before retiring in September

I retire at the end of September, and would like to send my fond farewell to Engineering Design students, both past and present.

Giving the 1987 annual talk at Harwell Laboratory, the then director attempted to ease unhappiness about salaries with “... it's a privilege to work here”. Please treat skeptically such BS in your paid employment; nonetheless, it is true of my time here. Happiness and career satisfaction have been assured by contact with bright, positive young people who are a joy to engage with. I have also been lucky enough to work alongside some excellent teachers (all of them gentlefolk) - in years gone by Bob Poulter and the late Mike Hollingsworth, always Joe Quarini and Jon Sims-Williams, and it has been my pleasure to watch the rapid progression, from Ph.D. studentships, of Becky Selwyn and Paul Harper.

I was lucky in my first few years here. Then, the limit on class sizes to 70 (not 440) helped to motivate engagement, universities taught topics in separate blocks of 10-credits (consistent with the published textbooks and guided the experience captured therein), and home students paid minimal fees. I remember Jon and colleagues starting the Engineering Design course, and have worked with some of your projects. The introduction of an industrial year, the linking of year 3 and year 4 projects, and the strong task focus have all been aspects that have made the Engineering Design graduates stand out. Recently the devastating Covid crisis has tested the world’s resilience; global warming however threatens to be a far more severe trial. The essential production of truly sustainable power and propulsion requires you and your generation of engineers to take on startling innovation, a holistic approach to design, and informed contribution to public debate. I have high hopes.

Perhaps I could reflect on one early moment in my career - arriving here in 1993, I felt overawed by the reputed capability of Bristol students, but was secretly relieved to find a human side. I expected my first engagements with a tutee to feature overwhelming discussions of tensor notation, vector calculus or Lame’s equation. Instead Mr JB sought comfort and reassurance concerning a recent hall party and his own alcohol-fueled amnesia. So, should you ever feel intimidated by a manager, overbearing colleague, senior academic, or (as you get older) bright young thing ... consider the possibilities of their younger life! I wish you well in your future studies, and your careers in Engineering Design. And, once again, thank you.

Dr Michael Tierney, Senior Lecturer in Mechanical Engineering

Mike McCann Recruits a New Apprentice

As always, a special thanks to Dr Mike McCann, who made his usual 3 trips over from the US to support the course’s design projects with his mathematical modelling expertise. We worked Mike harder than ever this year because as well as the usual Design Project 4/5 support, he also helped the year 2 students with the modelling aspects of their projects. With Mike’s additional workload in mind, we found him a young apprentice, Tom Bewley, a former student of Engineering Design, who is now studying for a PhD in Artificial Intelligence. Over the last year, Tom has become an integral member of the teaching team and similar to Mike, has been a fantastic source of support to the Eng Des projects. You can read more about Tom’s background on his personal website and we’d recommend listening to a brilliant range of Engineering Podcasts he has recently put together for Engineers Without Borders.

Dr Paul Harper, Programme Director

Thea Morgan and a look at her research into group learning diaries

Dear Diary,

This eventful year has seen the first presentation of the exciting new Design Methods 2 unit (we were excited anyway), a Y2 course designed and run by Jeff and I specifically for EDES. Therefore, in true EDES fashion, we’ve taken the opportunity to introduce innovative new practices in group teaching and learning such as; ‘flipped learning’ using online learning materials, active learning through ‘real-world’ group projects and industry workshops, and the use of the technology enabled ‘pods’ in the EDES design studios. A particularly novel aspect of the unit has been the use of group digital learning diaries, designed as a tool to help students develop essential ‘self-regulated learning’ skills i.e. those tacit skills that make you more successful learners (assessing the demands of a task, setting goals for learning, selecting suitable methods and resources for learning, and evaluating progress). In particular, the aim has been to help develop those skills together as a group. Data from the group learning diaries (and from focus groups run with Y2) are contributing towards a two-year engineering education research study I’m conducting as part of my BILT University Teaching Fellowship – so watch this space for upcoming publications! A big thank you to all Y2 students who engaged so well in the unit this year and served as willing guinea-pigs for my research. Heads-up Y1, I’m looking for new guinea-pigs next year...!

Dr Thea Morgan, Lecturer

Checking in with Jeff Barrie

Life on campus has been, quoting Will Smith, “flipped-turned upside down” since the Covid-19 lockdown. It has forced a lot of staff to significantly up their WFH game; balancing teaching on BB collaborate and Zoom meetings with childcare and the occasional cat on the keyboard (there is a Yammer channel dedicated to this). On the upside I have been able to spend a lot more time with the family and walking the doggos in the countryside before and after work. It is not quite the same as sprinting up/down the Christmas steps—but a nicer gradient! Take care - Jeff, Mungo & Maud

Jeff Barrie, Senior Lecturer
ALUMNI NEWS

The EngDes community does not end after leaving university and it is always great to see our alumni thriving. The number of EngDes founded start-ups is growing and it is a testament to the course’s community spirit that current students are continually invited to work with these growing companies - as reported earlier with student accounts about Remix Robotics and Circle-R, some of the newest start-ups to be born from Engineering Design alumni. Swytch and LettUs Grow also continue to thrive and you can read below for more information on what has been happening for them over the past year. It would be impossible to catch up with all of our alumni but we continue to wish them all the best in their endeavours.

DMITRO KHROMA & SWYTCH

In September 2019 we launched the Swytch ECO and raised over $1M on Indiegogo. Despite huge supply chain disruptions we’ve successfully manufactured the kits and have started shipping to our Europe and USA customers. We’ve just reached our 10,000th customer last month which is a huge milestone!

We’re working hard on our development pipeline which includes the next generation kit, a complete electric bike and a micro-mobility hybrid sharing bike. The team has grown to 15, including Alex Sheard from EngDes 4th year. We’re continuing to recruit talented Engineers for Design and Manufacturing roles. If you’re interested in shaping the future of electric transport, get in touch!

Dmitro@swytchbike.com

Dmitro Khroma (MEng 2018), Founder & CTO at Swytch Technology

Earlier this year Dmitro also celebrated success when he got accepted onto the Royal Academy of Engineering SME Leaders Programme. The SME Leaders programme supports individuals in leadership positions within engineering and technology companies, by offering a bespoke package of funding and training to help them take their businesses to the next level. Only 12 engineering innovators were accepted, so massive congratulations to Dmitro!

LETTUS GROW

It has been another fantastic year for LettUs Grow, co-founded by Charlie Guy (MEng 2016) and Ben Crowther (MEng 2016) from Eng Des, along with Jack Farmer from Biology. The company have continued their rapid expansion and have recently moved to a new larger office and test facility in Avon Valley Business Park. They have recently been ranked number 11 in the top 50 tech companies in the South West and Charlie has just been named as a finalist in this year’s Great British Entrepreneur Awards. LettUs Grow continue to give incredible support to the course, supporting two year 4 group projects and recruiting their first year placement, Maddy Silberberg (this is a good chance to thank Maddy for the incredible job she has done in putting this newsletter together!).

Dr Paul Harper, Programme Director
FREE SPACE

A new addition to the newsletter, this ‘free space’ is an area for students, staff and alumni to submit pieces about anything that they wish to. This edition of the newsletter features pieces from year 2 student Felix Newport-Mangell, Engineering Mathematics lecturer and legend among students Alan Champneys, and a tasty lemonade recipe from Lecturer Thea Morgan.

How to leave your student flat - an analytical report
by Felix Newport Mangell, Year 3

Abstract
The purpose of this report is to outline how to use tried and tested methods in the field of engineering and apply them to the simple problem of ending your yearly student tenancy.

Introduction
If you’re in the fortunate position of leaving your shared accommodation first, then there is no need to pay attention to anything that follows as you have been able to cunningly delegate the most interesting work to your fellow renters (I’m not bitter or anything). The main events that you’ll be missing out on may include: making sense of the 15kg or cutlery that you have accumulated after each housemate thought to bring their own set of 6; the corresponding lack of cups and mugs; and finding recipes for the 50+ small jars of half used spices.

Brainstorm
By far the most enthusiastic phase of leaving negotiations. Often heard phrases include ‘I can definitely take that’, and, ‘we can smash it out in fifteen minutes tops’. These succeed in getting the ball rolling in the right direction. It eventually transpires though that this direction includes several U-turns and a hill start.

Conclusion
After you’ve taken all of this on and implemented this technique into your own moving out shenanigans, you might come to the same conclusion as the writer and accept that the last energy bill, like your deposit, is not likely to be seen again by the incumbent tenant.

References
[2] The guardian, ‘What you should do with all your old spices’

When life gives you lemons… make homemade mint lemonade!
By Dr Thea Morgan, Lecturer in Engineering Design

Ingredients
3 unwaxed lemons
100g caster sugar
3 tablespoons of honey
Thumb of fresh ginger, roughly chopped
Handful of fresh mint or lemon balm leaves
Pinch of salt
1L cold water (still or sparkling)

Method
Tip the sugar, ginger, honey, mint leaves and half the water into a food processor along with the juice and zest of the lemons. Blend until finely chopped.
Pour the mixture into a sieve over a bowl, then press through as much juice as you can.
Top up with the remaining water and serve with plain ice, slices of lemon and lime, and fresh mint leaves.
by Professor Alan Champneys, Professor of Applied Non-linear Mathematics

In the dim and distant past, way before lockdown, I was approached by a student called Bristruths Rory. I am sworn not to pass on too many personal details of this mysterious figure, suffice to say he has an almost unnaturally deep voice and a strangely bulbous head festooned with tattoos that in certain lights seem to make his features resemble those of the University’s crest. He was standing for election as the Union Affairs Officer in the forthcoming Student Union Elections. Would I help with his campaign? I am not usually drawn into politics; I would like to think I am well known for keeping my political opinions to myself, especially on matters of the role of the UK in Europe. And I am never one for expressing any personal opinions or controversial views in my lectures. But there was something about what Mr Rory was standing for - string to avoid getting lost in Queen’s Building, ice cream and puppy dogs for mental wellbeing, chair lift on St Michael’s hill and replacing stressful student vivas with armed combat - that just seemed to speak to me of common sense. So I agreed to feature in his campaign video. It was filmed under conditions of anonymity and the non-disclosure agreement was one of the most stringent I have ever signed. On the day of the filming, I got up early to adorn my unruly greying hair with its customary “lecture hall” blond dye, and don my favourite tweed jacket. I was led away by blindfold to a secret room in the bowels of MVB to conduct a student viva in strict secrecy. I was not allowed to know the identify of the student in question, and in fact was only given 20 minutes preparation time to read the heavily redacted thesis. Frankly, it wasn’t very good.

I am sorry to say that, with the poor quality of the results, the candidate’s seeming complete lack of understanding of even the basics of geometry and his mumbled pathetic attempts to answer my questions, I did slightly lose my cool. I am also not proud that my frustration got the better of me and I allowed certain expletives to pass my lips. I have seen the evidence that I also became slightly incoherent at one point. It was then that things took a turn for the worse.

Believe me, I am sorry. I have received training in effective interview practice. I do know the golden rule that standing up, walking round the table and physically confronting the candidate is a strict no-no. But what could I do? In 70 years experience as a University Professor, I have never seen such a dismal performance. I took the candidate to the whiteboard. I asked him to explain again. What happened next is still a bit of a haze. I know that I grabbed him by the ear, and used his hair as a board rubber. But little did I expect that he had brought two hunting swords to the viva.

Sooner than you can say Errol Flynn, I found myself engaged in a swashbuckling fight for my life. Suddenly I realised that he was taller, lighter, younger and fitter than me, and frankly he was more suitably dressed for a sword fight. Bravely I fought on. It probably lasted what was only a matter of minutes, but it seemed like hours. Despite my advancing years, my adrenaline and self-preservation instincts enabled me to not only repel some many fervent slashes, but also to fight back. I like to think that just prior to the denouement, I was actually on top in the battle. But irony of ironies, my secret weapon, my nifty backhand swish, turned out to be my undoing. Heavily cut and bruised, I attempted the manoeuvre for just one time too many. This time he was ready. Thrusting his weapon downwards with both hands, he used his full height to descend on the weak point of my blade. Calamity! my sword snapped just a few inches above its hilt.

The precise details of what happened next is a secret that I will take to my grave. Suffice to say, due to swift negotiation, in the most desperate of circumstances, I escaped with my life, and the ever-to-remain-anonymous student received one of the best first class marks I have ever awarded.

I hope I have learned my lesson. If any student were ever to ask me again to feature in their election campaign, I won’t be so vain or foolish to say yes, instead ….

…… I would jump at the chance, I haven’t had so much fun in years!

Click here to see Bristruth Rory’s election campaign ad and click here for more hilarious footage of Alan.
LINKS & OPPORTUNITIES

By Rosie Hudson, Year 5

Make sure you're following us on social media!
Instagram: @engdesbristol
Facebook: Eng Des Society (Members)
LinkedIn: Bristol Engineering Design Society
(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)

Feel free to reach out to us via email at any time, or message one of the committee on Facebook.
Email: engdes-committee@bristol.ac.uk

Check out our page on the SU website where you can buy membership and tickets for events throughout the year. Website: http://www.engdes.co.uk/

Opportunities

The Bristol PLUS Award is a 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: https://bristol.careercentre.me/u/q7xz7ns1

You can find the Engineering Employability Blackboard page here. Here you'll find everything you need to know about CVs, placements and career options.

For vacancies for internships, part-time work and graduate roles, visit the career service at https://engage.bristol.ac.uk/s/careers

The virtual student laptop clinic is now open, providing remote assistance for any student experiencing tech problems with their phone, tablet or laptop. Click here if you need tech help.

ENG DES & BLM

By Maddy Silberberg, Year 3

University of Bristol, 2nd June 2020 - ‘Sadly, the death of George Floyd in the United States is not a one-off occurrence and Black communities across the globe face racism, violence, and discrimination on an everyday basis. We stand in solidarity with our Black staff and students against all forms of racism and social injustice. At times like these, it is all too easy to look to people of colour to educate those around them, adding to the pressure and trauma that many are already experiencing during this time. We recognise that it is not the responsibility of our Black colleagues and students to convince us why we need to tackle societal, structural, and institutional racism. It is the responsibility of us all to eradicate racism.’

Eng Des prides itself on being an inclusive, multicultural and multidisciplinary course. As Bristolians we believe it is important to be aware of Bristol's own participation in the slave trade and the impact of that on current members of our community today. Below you will find information and educational links regarding Bristol's Black history and also a list of resources if you wish to take further action.

On 7th June 2020 Black Lives Matter (BLM) protesters pulled down a statue of the slave trader Edward Colston and pushed it into Bristol Harbour. This was a direct reaction to the city of Bristol’s willful ignorance to its involvement in how African people suffered under the Trans-Atlantic Slave Trade during the 17th, 18th and 19th Centuries. The city of Bristol was a major contributor to the slave trade - and has since been the venue of multiple significant historical events in UK Black history.

A recent episode of the BBC programme ‘A House Through Time’ investigates the residents of an 18th-century house in Bristol and explains connections between Bristol and its slave trading past. Millions of people were trafficked and rich merchants in the city of Bristol benefited, making themselves even richer on the lives of Black men and women.

Aside from the recent BLM protests, there have been many moments in Bristol’s history that all residents should be aware of: the Bristol Bus Boycott, St Pauls Carnival and St Pauls Riots. Click on the links to learn more about these important local events.

The University of Bristol Library has a large selection of Black and anti-racist literature that is available in eBook format via the University of Bristol Library Search. Follow the link to see examples of the literature available and if you need more recommendations, get in touch with the library.

Educational resources, petitions, places to donate and more can all be found here.

Year 4 student Ebony Stephenson is Secretary of the newly formed Black Engineers Society which exists to empower and provide a safe space for Black engineering students within the Faculty of Engineering. Contact them via besuob@gmail.com and find out more following the link above.