



EPC Bulletin | June 2021 | Twitter [@EngProfCouncil](https://twitter.com/EngProfCouncil)

The last month or so has seen the launch of new headline-grabbing EPC research – which showcases the opportunities for social mobility from studying engineering and highlighting how these can be maximised – and the new *Crucible Project*, which aims to help our members build better industry links by sharing experiences and developing resources. While we are newly embarking on the fledgling *Crucible Project*, the fully-fledged [Engineering Opportunity: Maximising the opportunities for social mobility from studying engineering](#) was launched at a high-profile free-to-members online panel in May, featuring individuals who were able to share their personal perspectives on social mobility.

At our online Summer Congress series, the thread of personal perspectives continued, with Chris Skidmore MP lamenting that he had broken a long-standing family engineering heritage and shadow science minister Chi Onwurah revealing experience of discrimination in engineering. For more information on the latest and upcoming events, including ‘Engineering Engineering: a Provocation’, see below.

Finally, we have continued to campaign on your behalf. The EPC has followed up on previous member feedback to the Engineering Council by outlining the reasons for sustained criticism of the Council’s incoming changes to compensation and condonement rules from some pockets of the EPC community. It also provides member examples to help them understand why the (unintended) consequences are problematic in some engineering departments.

We also strongly supported the Office for Students’ prioritisation of engineering through increased high-cost recurrent funding to ensure engineering’s critical role in the UK’s recovery.

EPC news

EPC CONGRESS 2021 SUMMER SERIES

Our two-year EPC Annual Congress themed on *A Better World* and focusing on ethics, sustainability and recovery kicked off this month with a series of free-to-members live webcasts featuring Chris Skidmore, Chi Onwurah and a host of other experts.

Research for a Better World, 8th June 2021

Keynote speaker: Chris Skidmore MP, former Universities Minister

Chris' speech, entitled 'Research for a Better World', discussed how the UK can utilise research and engineering to 'build back better'. Chris believes that the UK's aim to spend 2.4% of its GDP on R&D by 2027 will likely be insufficient. He advised that greater investment into the UK's researchers and skills pipeline is needed to tackle low productivity. Looking towards the future, Chris also highlighted the growing need for greater innovation to tackle the challenges of climate change, Net Zero and the COVID-19 pandemic.

A summary of Chris' speech is available on the [EPC website](#). (A full transcript has also kindly been provided by Chris.)

A New Kind of Engineering, 15th June 2021

Keynote speaker: Chi Onwurah MP, Shadow Minister for Digital Science & Technology

Chi's speech, entitled 'A New Kind of Engineering', focused on ethics, diversity and inclusion within engineering. Chi spoke about how her own experiences in engineering have influenced her political career, and how the Government must do more to increase diversity in engineering for the sake of the economy. She also argued that greater examination of the ethical considerations of engineering is needed as industries become increasingly powerful.

A summary of Chi's speech is available on the [EPC website](#).

EPC RESEARCH: Engineering Opportunity: Maximising the opportunities for social mobility from studying engineering

The EPC's latest study, [Engineering Opportunity: Maximising the opportunities for social mobility from studying engineering](#), reveals that studying an Engineering degree gives a greater boost to social mobility when compared to other subjects. The report finds that, ten years after qualifying, the average salary of Engineering graduates is £42,700 – which is £11,700 more than the average of other graduates. While some of this was down to pre-existing characteristics associated with higher earnings (such as higher entry grades, gender, region and social status), these factors could not account for the whole gap and the higher earnings were relatively evenly spread across the country. The earnings premium was greatest for engineers with BTEC qualifications, a group which tends to have much larger numbers of students from disadvantaged backgrounds. They earned an average of £8,100 more than the average wage of other graduates with BTECs five years after graduating.

The findings suggest that foundation years in Engineering may be a particularly effective way of delivering social mobility to students without traditional entry qualifications, but these opportunities were limited, especially in the most selective universities.

The report also identifies key areas of concern and makes recommendations to boost social mobility through Engineering and all areas of higher education. Drawing on the findings, the EPC report includes seven policy recommendations to further enhance the social mobility gains achieved through higher education, and Engineering in particular. These include wider access to 'triple science' at GCSE; more radical and widespread consideration of students' backgrounds in university admissions; entry grades automatically adjusted to account for background; expansion of foundation years; conversion courses to support students academically; use of metrics that focus

on the value added to each student rather than unfair comparisons; and regulation of university access at the level of subject areas as well as whole institutions.

You can read the report [here](#), and an EPC blog on the report and findings on the [EPC website](#).

EPC RESEARCH: Brexit impact on UK's engineering education sector: Exploring EU students and staff experiences

You may recall that we have also recently published the EPC's [joint study](#) with UCL's Centre for Engineering Education on the experiences and perceptions of European (EU) engineering students and academic staff in UK universities. Drawing on surveys, interviews and data analysis the independent research, funded by the Royal Academy of Engineering, was conducted to support an evidence-based approach to the recruitment and retention of European talent into UK engineering education, research and practice through understanding the concerns and expectations of European students and academic staff.

The report, [Brexit impact on UK's engineering education sector: Exploring EU students and staff experiences](#) is available on the [EPC website](#).

EPC RESEARCH: Ethics

With backing from the Royal Academy of Engineering, the EPC has embarked on a project to produce an engineering ethics toolkit, starting with a teaching resource based on 20 ethics case studies.

Professor Sarah Hitt, NMITE, is leading the project and an Advisory Group of leading experts (drawn from academic, industrial and advocacy institutions) have been working together to agree a template and oversee the work to create materials covering a range of engineering disciplines and ethical scenarios. Case studies are a common tool for educators seeking to integrate ethical, social, environmental, cultural, and business considerations into technical engineering content.

Aligned with AHEP's focus on sustainability, EDI, and broad and complex problems, this will kickstart an ever-evolving bank of resources to support engineering HE for generations to come, supporting educators whatever their confidence in teaching engineering ethics. It will also "enable the UK to position itself as a leader in advocating for and advancing engineering ethics education."

QUEEN'S BIRTHDAY HONOURS: for former EPC President

Many congratulations to former President of the EPC, Professor Helen Atkinson, now Dame Professor Helen Atkinson DBE, for her well-deserved recognition in the Queen's Birthday Honours.

Upcoming events

EPC ONLINE EVENT: 'Engineering Engineering: A Provocation', 6th July 2021, 2.00pm to 4.00pm

Given the skills shortages in engineering and the high rewards, surely there should be a flood of people wanting to become engineers? Why then does demand seem more like a trickle – especially among women? Are we making systemic mistakes in UK engineering education that create barriers and misrepresent the sector?

The EPC will be hosting the launch of a highly provocative and personal reflection by Prof Kel Fidler, CEng HonFIET FREng, former Chair of the Engineering Council and former Vice Chancellor of

Northumbria University, in which he seeks to diagnose the problem and offer some radical solutions including the division of Engineering into design-led and science-led approaches, abandoning existing initiatives to attract young people into engineering, and adopting a new approach to the media representation of engineering.

In particular, this event will examine four themes from the paper:

- The role of outreach in promoting engineering
- How we might attract more women into engineering
- The public perception of engineering
- The distinction between design engineering and engineering science

To explore these ideas and look for other solutions, we have a panel of experts, chaired by EPC President Prof Colin Turner:

- Prof Kel Fidler, author, 'Engineering engineering'
- Elizabeth Donnelly, Chief Executive, Women's Engineering Society
- Hilary Leever, Chief Executive, Engineering UK
- Tom Sheldon, Senior Press Manager, The Science Media Centre
- Prof Mike Sutcliffe, Deputy Dean, TEDI-London, and EPC President-Elect.

EPC members can book their free ticket to this event [here](#). The webcast will be followed by the EPC Annual General Meeting.

EPC ONLINE EVENT: Annual General Meeting, 6th July 2021, from 4.15pm

Our Annual General Meeting this year will be held on Tuesday 6th July from 4:15pm online via Zoom following our 'Engineering Engineering' webcast (featuring publication and discussion of a provocative new paper) which will start at 2pm.

All individual EPC members are welcome to attend as observers and each institutional member should nominate up to three individuals to act as Council Members who have formal voting rights at the AGM. Register [here](#) to receive a link to the Zoom session a few days before the event. See the [formal notice](#) for details.

EPC ONLINE EVENT: The Crucible Project, 16th February 2022

During the course of the 2020 Annual Congress, *Industry & Academia: Supercharging the Crucible*, members explored the interface between industry and academia and some of the challenges to developing the relationship between industry and academia. This highlighted five areas of mutual interest:

- Universities' and businesses' shared role in regional development
- Collaborating with industry for teaching and learning
- Knowledge exchange
- Research
- Graduate employability and recruitment

The EPC now wants to build on this by launching the *Crucible Project*, an initiative to help our members build better industry links by sharing experiences and developing resources for all EPC members to access. We are planning to hold an online Industry-Academia event, featuring a diverse

range of case studies of innovative and engaging collaborations between academics and industry, on 16th February 2022 and to produce a toolkit (or a series of toolkits) which members can access from the EPC website.

If you would like to get involved, see the opportunities section below, or register your interest [here](#).

EPC EVENT: Congress 2022 – A Better World, 6th to 8th June 2022

The next physical Congress, on our two-year theme *A Better World*. Congress will continue to focus on ethics, sustainability and recovery. It will be held at UWE, Bristol, from 6th to 8th June 2022.

EPC SECTORAL GROUP EVENT: 18th International Conference in Manufacturing Research ICMR, 7th – 10th September 2021

The ICMR2021 conference, incorporating the 35th National Conference in Manufacturing Research Virtual Conference, will run fully online in September hosted virtually by the University of Derby. COMEH continues to support the conference team to provide support around publications reviews, technical advice to the online platform and working with the publishers. Further details on the conference are available [here](#).

OTHER EVENT: 5th BME Early Career Researcher Conference

The 5th BME ECR conference will take place on Friday 9th July 2021. This year's conference, 'Moving on up', will be hosted online by The Open University and the University of West London. Details of speakers and booking are available at bit.ly/BMEECR.

In the news

AUGAR REVIEW

The Government's response to the Review of Post-18 Education and Funding (Augar Review) published over two years ago now appears to be on the summer horizon with the response widely expected to take aim at university standards, proposing minimum entry criteria mooted by Gavin Williamson as a pass in English and Maths GCSE.

The future of Foundation years is still up for discussion in a big way (our *Engineering Opportunity* publication provides timely evidence for the English Government's plans for higher education) together with Uni Connect and access to Higher Education. The Secretary of State for Education has also nodded towards a challenge to "patronising" practices, which appear to include contextual admissions and assessment criteria.

Finally, eyes will be on whether there remains any political capital in reducing the fee and what equation might be used to do that, amidst a real time reduction in line with Augar's recommendations in the light of a compressed wider economy resulting from the pandemic.

Notwithstanding that we're now well overdue a cabinet reshuffle, the Government plans to consult on these and other reforms to the higher education system before setting out a full response to the Augar report and a final conclusion to the Review of Post-18 Education and Funding. This is expected alongside the next Comprehensive Spending Review.

We eagerly await the promised opportunities to comment on these and the lifelong loan, as well as future iterations of TEF and degree apprenticeships.

WALES INNOVATION NETWORK

Universities Wales has [announced plans](#) for a collaborative initiative to strengthen research and innovation in Wales (the Wales Innovation Network). WIN aims to raise the profile of research and innovation in Wales to help Welsh universities to form partnerships and share infrastructure. The network will be supported by £1m+ from the Higher Education Funding Council of Wales over three years.

NEW GUIDANCE: Education for Sustainable Development

Jointly published by QAA and Advance HE, new Education for Sustainable Development Guidance (ESDG) provides a framework and guidance to help academics incorporate Education for Sustainable Development within their curricula. It has been produced by an expert group drawn from across the sector, with the aim of supporting students from any discipline to acquire the knowledge, understanding and skills necessary to develop values and take actions to transition society towards sustainable futures. More information is available [here](#).

Consultations

COMPENSATION AND CONDONEMENT: Engineering Council regulations

The Engineering Council's incoming changes to compensation and condonement rules have been subject to sustained criticism from some pockets of the EPC community. Following an EPC member consultation, we have presented a [paper](#) to the Engineering Council which outlines the reasons for this and provides member examples to help them understand why the (unintended) consequences are problematic in some engineering departments.

Key concerns include the impacts on students and particular groups of students; the extended use of parallel unaccredited exit routes with lower thresholds; the constricting effect of the rules on university processes and innovation and ultimately, the weakening of the accreditation route and engineering pipeline. The work has also highlighted that some members are not fully aware of why the changes themselves have been implemented and on the basis of what evidence and if their feedback on the impacts has been fully appraised.

You can see details of the changes in our [guest blog](#) by the Engineering Council's Education and Skills Manager.

FUNDING: Office for Students (OfS)

The EOC briefly responded to the Office for Students (OfS) expected funding consultations, including [proposals on recurrent funding](#) covering cuts to the London weighting and subject funding for creative arts, archaeology, and media studies.

We strongly supported the prioritisation of engineering through increased high-cost funding to ensure engineering's critical role in the UK's recovery. We also highlighted that Engineering is at the core of our modern society (underpinning every sector from communication, technology and entertainment to finance and healthcare, as well as its more visible applications in construction, manufacturing, energy, defence and transport). However, the UK is experiencing a well-documented and long-standing engineering skills gap. The resultant shortage of graduate engineers may be further exacerbated by the pace of change driven by the fourth industrial revolution, the impact of the UK's exit from Europe and the effects of the global pandemic.

You can see the full response and EPC's protocol for responding to consultations on the members section of the [EPC website](#).

Opportunities

EPC ELECTION OF OFFICERS: Honorary Secretary and Treasurer

The following positions shall be elected at the AGM:

Honorary Secretary: The two-year term of office of the current Honorary Secretary, Professor David Harrison comes to an end at the 27th AGM. He has indicated his wish to re-stand for the position.

Honorary Treasurer: The two-year term of office of the current Honorary Treasurer, Professor Stephanie Haywood comes to an end at the 27th AGM. She has indicated her wish to re-stand for the position.

Nominations are invited for the positions by the process outlined in Appendix 2 to this [Notice](#). They must reach Johnny Rich, Chief Executive, at j.rich@epc.ac.uk no later than 09:00 on Friday 2nd July 2021. Details of the current Board may be found on the [EPC website](#).

COMMITTEE MEMBERS: Research, Innovation and Knowledge Transfer Committee (weblink)

The Research, Innovation and Knowledge Transfer (RIKT) Committee: Committee has a focus on engineering research, enterprise, innovation and knowledge transfer activities at a national and international level. At our core we wish to achieve impact from the engineering research in the UK and raise opportunities for collaboration between industry and academia.

We are looking to expand the committee by welcoming new members in some or all of the following areas:

- Industry-facing academics or academics active in research, innovation and knowledge transfer
- Industry members to offer their insights and assist us in ensuring engineering research maximises innovation and knowledge transfer and impact
- Industry-based visiting professors (current and previous)

If you would like to discuss the work of the Committee, join the Committee, or nominate yourself, please contact [Andy Alderson](#) in the first instance.

CALL FOR CASE STUDIES: The EPC Crucible Project

EPC members are invited to submit case studies, in whatever form, on the above areas of interest. We would especially welcome case studies created collaboratively between industry and academia partners. If you would like to get involved, please register your interest [here](#).

The panel (members of the EPC Research, Innovation and Knowledge Transfer (RIKT) Committee) will be in touch to discuss your submission shortly to enable work to proceed over the summer. The deadline for the call for contributions is September 30th.

Please also share this opportunity with your Industrial Advisory Board or those within your university that deal with engineering industry collaboration and KTPs.



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