



The year so far

The Perkins Review 2.0: A landmark report, [Engineering Skills for the Future](#) (aka 'The 2013 Perkins Review revisited'), led by the Royal Academy of Engineering, was published at the end of January. The Engineering Professors' Council (EPC) was a major contributor, especially to the analysis and recommendations on higher education.

The paper found that the supply of essential engineering graduates into the UK labour market could be undermined by a host of factors in the context of higher education, including the post-18 education funding review, falling research revenues and international student numbers as a result of Brexit, proposals in the Immigration White Paper, and the challenge to diversify the intake of students.

New Approaches: Our New Approaches work has continued with the launch of [case studies of six universities](#) leading the way for innovation in engineering higher education.

Events: We are now looking forward to the 2019 Annual Congress from 13th to 15th May. With a theme of 'Engineering Change', this promises to be an exciting event to focus our minds on surviving and shaping the policy environment in engineering and higher education. We're thrilled to welcome a host of influential speakers to the big event in the EPC calendar and look forward to welcoming you to University College London. [Bookings are now open.](#)

Consultations: It's been a busy start to the year with consultations too, with the EPC voice already present in the policy marketplace. We have [responded to proposed changes to the degree classification system](#) in the UK designed to ensure transparent, consistent and fair academic standards (QAA's grade inflation strategy) and have called for the [APPG on Diversity and Inclusion in STEM](#) to do more work to eliminate gaps in the HE entry rates for the most and least represented groups in engineering.

LAST CHANCE TO CONTRIBUTE: Full EPC member consultations are currently underway on the [Knowledge Exchange Framework](#) (KEF) and the [Teaching Excellence and Student Outcomes Framework \(TEF\)](#). We are also planning a joint response (through the engineering sector group E4E) on the Immigration white paper.

Honours: Finally, many congratulations to EPC members recognised in the New Year Honours: Prof Geoff Maitland CBE (Imperial); Prof Sarah Hainsworth OBE (Aston); Prof Hugh Griffiths OBE (UCL); Prof Raffaella Ocone OBE (Heriot-Watt); and to our friend Susan Scurlock MBE (Primary Engineer).

EPC news

PERKINS REVISITED

The 2013 Review of Engineering Skills by Professor John Perkins FEng, commissioned by government, was a landmark report, the first to review engineering education from primary schools to professions. *Engineering Skills for the Future – the 2013 Perkins review revisited* is an independent report from the engineering profession. With the higher education content drafted by the EPC, it revisits the challenges highlighted in the original Perkins Review, and sets out a roadmap for government and the engineering community that identifies urgent priorities for action.

The report highlights how the whole education system cannot produce enough engineers to support the UK economy, especially with increasing reliance on home-grown talent post-Brexit. The report makes a raft of recommendations for government including relaxing the rules on how the Apprenticeship Levy may be spent, addressing the shortage of skilled teachers, and ensuring engineering higher education is well resourced and attractive to applicants in the event of changes to student funding. The report specifically recommends that the UK must remain part of international partnerships to continue to attract students from the EU and all over the world and should extend opportunities for graduates to stay and work in the country after their studies. It also emphasises the need for top-up grants for engineering courses in the event of any cuts to tuition fees.

For more information, and to download the full report, please visit the EPC [website](#).

NEW APPROACHES CASE STUDY LAUNCH

New Approaches to Engineering Higher Education is an ongoing initiative that the EPC is running in partnership with the IET. The aim is to encourage innovation in the sector's approaches to policy, pedagogy and practice.

As part of this work, the EPC and IET were delighted to launch six case study examples for each of the six *new approaches* last week. We believe this proves that the required changes can be achieved – are already being achieved – and that by taking their lead, other institutions can be inspired to come up with new approaches of their own. Download the [New Approaches Case Studies](#).

A summary of the work to date, including the main points raised at the policy round table at the end of last year and the recommendations for policymakers, industry and academia to take on board that were put forward in the meeting is also available [here](#).

DEGREE APPRENTICESHIPS

The EPC Education Engineering, Employability and Skills (EEES) Committee continues to push our work on degree apprenticeships, currently working with the Institute for Apprenticeships to agree the recommendations of our [Experience Enhanced](#) report on which they will focus to resolve. We

understand that not all of our members follow this area closely, so if you would like to receive more detailed progress reports following on from the report, please [contact us](#).

Our Chief Executive, Johnny Rich, spoke on this topic at a recent conference hosted by social mobility think tank The Bridge Group. We are also supporting the Royal Academy of Engineering and the Engineering Council to help them identify the issues that are universal across all levels of apprenticeship (as well as those that are specific to degree apprenticeships) and to understand the mechanism that drives them. We will also be looking at those issues that are relevant to all types of engineering apprenticeships, and those that are sector specific.

Meanwhile, Tom McEwan of Policy Connect and the author of the recent [Higher Education Commission's report on degree apprenticeships](#) – which drew heavily on the EPC's paper – will be speaking at our Annual Congress in May.

OTHER PUBLICATIONS

You may recall that EPC co-authored a short paper in collaboration with UCL's Centre for Engineering Education which was presented to CISPEE by Dr Ines Direto. The paper is now available on [IEEE Xplore Digital Library](#).

Johnny Rich (EPC Chief Executive) also wrote a recent news review for Media FHE exploring the question [‘what is the purpose of universities?’](#)

Upcoming events

EPC EVENT: ANNUAL CONGRESS 2019: 13th to 15th May 2019

We are delighted to launch the EPC Annual Congress 2019 which will pro-actively navigate unprecedented engineering change in the policy environment. [Early bird discounts are available now](#). This year's Congress will be hosted by University College London in Central London.

The Annual Congress is the big event in the EPC calendar – an opportunity to network, gain and share insights and stay in touch with developments in policy and practice in engineering teaching, research and innovation. The event is not to be missed by engineering academics in UK higher education, whether you're a senior professor or have recently joined the profession. In fact, there are [10 FREE places](#) available for early career staff.

We are pleased to announce an extraordinary line-up of confirmed expert speakers including:

- Julia King DBE, Baroness Brown of Cambridge
- Professor Chris Atkin, Chairman of the Engineering Council
- Nick Hillman, Director of Higher Education Policy Institute
- Debbie McVitty, Editor of Wonkhe
- Anne-Marie Jolly, SEFI chair of WG Accreditation group, member of ENAEE Label Committee
- Professor Elanor Huntington, Dean, ANU College of Engineering and Computer Science
- Professor Anthony Finkelstein, Chief Scientific Adviser for National Security
- Isabella Pannella, Autonomous Driving- Systems senior manager at Jaguar Land Rover UK

More high-profile speakers and the full programme will be announced soon. [Bookings are now being taken](#). Book now to secure your early bird discount of up to £50.

EPC COMMUNITY EVENTS: EERN SPRING COLLOQUIUM: 3rd May 2019

Following the success of both the 2018 Spring Colloquium in Newcastle during May and the 2018 Annual Symposium in Portsmouth in November, the UK and Ireland Engineering Education Research Network is pleased to announce that this year's EERN Spring Colloquium will be hosted by Professor Brian Bowe and his colleagues at TU Dublin (Technological University Dublin) on Friday 3rd May 2019.

The Colloquium will provide the opportunity to participate in one of Europe's most collegial Learning Communities. It will provide the opportunity to access the latest findings of high quality Engineering Education Research, led by the leading Engineering Education Researchers from Ireland, the UK and beyond. The call for presentations and full invitation to participate will follow later in the term.

In the news

ENGINEERING COUNCIL STANDARDS REVIEW

The Engineering Council has notified us that the next consultation on the Standards review will take place in May – June 2019. Following the success of our last submission to the Engineering Council on this, we are looking to set up an EPC members' event for the Council to consult with you on your response to their draft Standards. They are particularly interested in the content of the Standards, not the consistency of their application at this stage. If you are interested in getting involved, please [contact the EPC Executive](#) or watch out for notices by email or on the EPC website.

ENGINEERING SECTOR DATA

A wealth of sector data is now available from UCAS and HESA, and Engineering UK (who have updated their State of the Nation datasets). This data will be considered closely throughout the year, but here's a taster.

Summary HESA data showed that, in 2018:

- **There was an overall increase in full-time enrolments.** 1,105 (1%) more full-time Engineering and technology enrolments in 2017/8 were masked by a part-time slump (-1,285, 4%). This reversal was almost exclusively *not* first year enrolments. Perhaps part-time returners are switching to full-time study?
- **There was a small increase in (full-time) undergraduate enrolments.** Undergraduate Engineering and technology enrolments were up slightly overall (+485) but a similar reduction in part-time enrolments (-495) masked a small, 1%, increase (+980) in full-time undergraduate numbers.
- **But there was a drop in the number of full-time undergraduate first years.** Down by 2% (-655).
- **There was an increase in first-year full-time postgraduate enrolments.** These increased by 4% (+660).
- **But a drop in postgraduate enrolments overall.** Also down by 2% (-665). Education was the only other subject to see an absolute fall in postgraduate numbers.
- **This was largely owing to a drop in post-graduate re-enrolments.** Postgraduate enrolments that were not first-years declined by 1,045 in 2017/8.

- **The gender gap is closing.** Female enrolments in Engineering and technology have increased by 17.5% since 2013/4 compared to a 1.1% increase in males. In absolute numbers, female enrolments have increased 3 times more than male enrolments (+4,470 and +1,465, respectively). In 2016/7, the number of male Engineering and technology enrolments decreased.

Consultations

KNOWLEDGE EXCHANGE FRAMEWORK

Research England has launched a [consultation exercise](#) on the Knowledge Exchange Framework (KEF), which may be used to determine the allocation of certain funding to higher education institutions in England. The exercise may be extended or duplicated or may inspire similar exercises in the devolved nations.

The EPC has run a full member [consultation survey](#). To prepare for the consultation with members, the EPC Research, Innovation and Knowledge Transfer (RIKT) Committee has discussed and drafted a response to the questions asked as a starting point to help you frame your own thoughts. We would welcome your endorsement and/or comments on our draft.

Our survey will close at **noon on 27th February**. The Research England consultation closes on 14th March 2019.

TEF

The Department for Education is [seeking views](#) on the Teaching Excellence and Student Outcomes Framework (TEF) to inform an independent review of the framework as pre-figured in the Higher Education Research Act (2017). This is our last chance to have a really significant impact on TEF over the next 5 to 10 years.

The EPC is running a full member [consultation survey](#) until **Wednesday 27th February 2019 (at noon)** based on an initial response prepared by our members on the Employability and Skills (EEES) Committee. This committee is made up entirely of engineering academics.

Thank you to those of you who have responded to the EPC member consultation launched on 11th February. You have until noon on Wednesday to share your views with us and until 1st March to submit your views directly to the DfE. Given that the EPC seeks to reflect the collective view of the engineering HE community, the more vociferous and colourful amongst you may wish to submit your views directly too.

IMMIGRATION WHITE PAPER

Where possible, the EPC seeks to offer a single, authoritative, HE engineering voice in our responses to consultations. Sometimes, it is even more effective to collaborate with other education sectors in the engineering space. To this end, we are working with Engineering for Education, an engineering education and skills policy body, to produce a collaborative response. Our concerns will focus on the £30k salary threshold, the deposit, and the limitations on remaining in the UK post study. If you think we should be raising further points, please [contact us](#).

APPG ON DIVERSITY AND INCLUSION

In response to a call for contributions, we have lobbied the All Party Parliamentary Group on Diversity and Inclusion in STEM about the critical need to eliminate equality gaps in STEM education. There are massive labour skills shortages, particularly in Engineering, with an average annual demand to fill 124,000 Level 3+ core engineering roles through to 2024. To support UK's Industrial Strategy and Britain's forthcoming exit from the EU, we need to urgently improve and secure UK engineering talent pipelines through ensuring we draw from the widest pool possible.

Engineering, in particular, tends to very actively focus on its gender problem. Typically, fewer than 1 in 5 higher education (HE) engineering enrolments are currently women. The national focus now needs to expand to eliminate gaps in the HE entry rates for the most and least represented groups, reducing the ratio for POLAR4 quintile 5: quintile 1 students. The HE demand gap in engineering is wider than in other subjects and proportionately the admissions gap is wider than the trend in demand indicates.

Read the full submission on the [EPC website](#).

GRADE INFLATION

In response to the [UKSCQA degree classification consultation](#) the EPC asserted that there are many reasons – not accounted for in the statistical model – for the degree outcome uplift recorded in the report, not least the massive expansion of student numbers in the last 20 years (leading to a less socially constrained pool of students); greater awareness of student support needs; the increased cost of higher education to students; more incentivised and focused students; and improved teaching in both schools and universities. The evidence of improvement in teaching (and the development of pedagogy in UK universities) is much stronger than the evidence for grade inflation. A UK sector-wide statement of intent should refute unfounded assertions about grade inflation (without denying the possibility), should acknowledge that there is clearly evidenced improvement in pedagogy in recent years, and should make it clear that the sector intends to prevent grade inflation from happening in future.

Read our full response on the [EPC website](#).

OFFICE FOR STUDENTS CONSULTATION: New approach to Access and Participation

The OfS consulted last year on their new approach to regulating access and participation in English higher education. The EPC has submitted a response urging the OfS to give consideration to how the context for wider access varies between disciplines and that department efforts should be better recognised in the context of whole institutions Access and Participation Plans.

You can read EPC Protocol for Consultations on the [EPC website](#).

Opportunities

EPC HONORARY TREASURER

Following many years of service from our Honorary Treasurer, [Professor Jim Yip](#), is retiring. We are, of course, hugely grateful to him for his many years supporting our work.

His departure will create a vacant position of Honorary Treasurer to be elected at the AGM in May 2019 (to be held during Congress). If you are interested in applying for this role, please contact [Johnny Rich](#), Chief Executive.

EXCELLENCE IN STRUCTURAL ENGINEERING EDUCATION AWARD

The Institution of Structural Engineers has launched the 2019 round of its Excellence in Structural Engineering Education Award. The deadline is 22 April and submission details can be found [here](#).

Submissions should outline how lecturers/departments have developed innovative teaching philosophies and techniques to improve student learning at a tertiary level in structural engineering. It may cover any bachelor's or taught master's course and should describe one or more of the following:

- Developments in learning/teaching philosophies and their impact on learning outcomes
- Learning tools and physical or electronic models for use in lectures, tutorials or laboratory classes
- Methods of demonstrating/teaching specific concepts of structural behaviour
- Self-learning activities for students
- Methods of assessment
- Course design

Any questions to education@istruct.org.

CALL FOR PROPOSALS: THE CENTRE FOR INNOVATION IN HIGHER EDUCATION (CIHE) ANNUAL CONFERENCE 2019 ANGLIA RUSKIN UNIVERSITY (CAMBRIDGE CAMPUS), 10th JULY 2019

The inaugural annual conference entitled 'Creative Approaches to Pedagogic Research' invites contributions of 30 minutes focussing on any of the below three strands, which underpin CIHE's mission, or other creative approaches to pedagogic research.

- Digital Futures
- Active Learning
- Design Thinking Pedagogy

Please submit your proposal using [this form](#) by 18 April 2019. The conference webpage is now open and can be accessed [here](#).

THE INTERNATIONAL CONFERENCE ON INFORMATION TECHNOLOGY BASED HIGHER EDUCATION & TRAINING

Call for proposals to present at its 18th Annual Conference to be held on 26-27 Sept at Magdeburg, Germany. Please refer to their [website](#) for further details.

WANTED: CIVIL ENGINEERS TO BE INTERVIEWED FOR RESEARCH PROJECT

Researchers at the Centre for Engineering Education are collaborating with Engineers without Borders UK and the Royal Academy of Engineering on a project to understand whether and how global responsibility impacts on decisions in the engineering profession. They are looking for professional civil engineers (with at least 3 years of work experience) working in the building and construction environment to get involved in the study. If you are interested or know someone who might be, please contact Ines Direito (i.direito@ucl.ac.uk). Further details are available [here](#).



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