

Athena SWAN: Bronze and Silver department applications



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Athena SWAN Bronze department award application

Name of institution: University of Cambridge

Department: Department of Chemical Engineering and Biotechnology

Focus of department: STEMM

Date of application: November 2020

Award level: Bronze

Institution Athena SWAN award date: November 2018

Contact for application: Dr David Fairen-Jimenez

Departmental website: www.ceb.cam.ac.uk

Abbreviations

ACE	Advanced Chemical Engineering
AP	Action Plan
AS	Athena SWAN
ASWG	Athena SWAN Working Group
BA	Bachelor of Arts
CE	Chemical Engineering
CEB	Chemical Engineering and Biotechnology
CET	Chemical Engineering Tripos
CPD	Continuing Professional Development
CRS	Contribution Reward Scheme
DA	Department Administrator
E&D	Equality & Diversity
F	Female
FTE	Full Time Equivalent
GEC	Gender Equality Champion
HESA	Higher Education Statistics Agency
HR	Human Resources
HoD	Head of Department
IChemE	Institution of Chemical Engineers
M	Male
MBE	MPhil in Bioscience Enterprise
MEng	Master of Engineering
MPhil	Master of Philosophy
PCB	Postdocs of Chemical Engineering & Biotechnology
PDRA	Postdoctoral Research Associate
PGT	Post Graduate Taught
PGR	Post Graduate by Research
P/G	Postgraduates
PhD	Doctor of Philosophy
PI	Principal Investigator
PPD	Personal and Professional Development
PSS	Professional Support Staff
RA	Research Associate
SAP	Senior Academic Promotions
SMART	Specific, Measurable, Attainable, Realistic and Timely

SMB Strategic Management Board

SoT School of Technology

SRA Senior Research Associate

SRD Staff Review and Development (Appraisal)

UCAS Universities and Colleges Admissions Service

U/G Undergraduates

UL University Lecturer

USL University Senior Lecturer

UTOC University Teaching Officers' Committee

1. LETTER OF ENDORSEMENT FROM THE HEAD OF DEPARTMENT



Professor Clemens Kaminski
Head of Department

Advance HE Head of Equality Charters
First floor
Napier House s24 High Holburn
London WC1V 6AZ

27 November 2020

Dear Athena Swan Panel

The Department of Chemical Engineering and Biotechnology, CEB, moved to an inspirational new building on the West Site of the University of Cambridge in 2016, uniting, for the first time, members of two historically separate departments (Chemical Engineering and Biotechnology) under one roof.

We are an ambitious, forward looking department situated at the interface of the natural sciences / and engineering, at an equally ambitious university. Our discipline features distinct challenges, including stiffening global competition, strongly felt in CEB since we are situated near the top of international rankings tables, and a changing public perception of the chemical industries. This creates a situation in which constant competition and perception of a hostile environment contribute to reasons why women opt to pursue alternative careers.

Furthermore, there continue to be structural hurdles. For example, young female academics are at a competitive disadvantage in securing grants when research outputs drop in a particular year. Social conditioning is also a huge factor with children at school age, for example through messages like 'girls cannot do maths,' or 'science is not a career for you'. Because of these issues, we, society as a whole, are wasting vast human resource, talent, and academic excellence; a brain-drain provoked by prejudice.

We reorganised CEB last year, creating additional challenges for our staff, but also an opportunity for us to develop a new institutional culture. We conducted staff surveys to gather data on our performance and processes and this Athena SWAN submission describes policies we have put in place to improve our culture. We have used the opportunity to review the way we work and propose new ideas to grow and nurture an inclusive and welcoming environment. The central motivation behind this Athena SWAN application is to make proposed plans practical and useful for the Department. We believe that the journey and culture matter more than numbers of male and female staff members we have in CEB. To paraphrase Angela Davis, we do not assume that the answer is simply the establishment of a diversity and inclusion committee – diversity is good, inclusion is good, but justice is key. We hope our initiatives will allow us to improve our department and to narrow the gender gap.

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We pay specific attention to minorities, family-friendly policies and other areas – all for the improvement of our working culture.

On the whole, we are proud of recent achievements, but we must not be complacent. In particular, we highlight actions around the Breaking the Silence programme to fight sexual harassment; our high number of female academics, which surpasses the proportion found at undergraduate student level; and the leadership roles that women take at all levels in CEB. All of these successes are a result of an environment that not only supports and values diversity, but through it creates cultural and intellectual opportunities. Our position has been significantly enhanced through our new connection with the Centre of Global Equality, CGE, for which CEB acts as a worldwide hub.

— The aim with our action plan is to frame the objectives and rationale for our way forward and to establish criteria for measuring success. Our actions are pragmatic but ambitious and we have three areas we want to prioritise: i) improving the transparency and communication of strategic decisions, ii) identification and support of the best female applicants for senior academic vacancies, and iii) increasing awareness of support channels for staff and students to tackle any bullying and harassment.

As a new Head of Department since October 2020, I wish to maintain our world leading environment, provide all staff the opportunity to embrace change and develop resilience against uncertainty. I am convinced that embedding these Athena Swan principles in our culture will improve the working environment for everybody at all levels, supporting the professional development and aspirations of individuals and the department as a whole.

I confirm the information presented in the application (including qualitative and quantitative data) is an honest, accurate and true representation of the Department.

Yours sincerely

A handwritten signature in black ink, which appears to read "Clemens Kaminski".

Clemens Kaminski

[SECTION: 513 WORDS]

2. DESCRIPTION OF THE DEPARTMENT

The Department is part of the School of Technology. It moved in 2017 from three sites to a new building in West Cambridge. The mission statement of our department is to be an inspiring world-leading institution in research, providing exceptional education and an impact on chemical engineering and biotechnology and their translation to industry. In July 2020, the Department had a total of 135 staff (39% F); **Table 1** shows the numbers and the % of women in the different categories.

Table 1. Staff members of the department. Professional support staff provide administrative, technical and support services for the department; research staff are assistant researchers with a PhD.

	Number	# of which Women	% Women
Academic Staff	30	11	37%
Professional Support	52	22	42%
Research Staff	53	19	36%
Total	135	52	39%

The Department's strategy is to work at the interfaces between engineering, chemistry, biology and physics. In the 2014 Research Excellence Framework (REF), the Department came top of Unit of Assessment 12, with a research profile of 47% 4* (world-leading) and 45% 3* (internationally excellent). Besides, academic staff may also become a member of a Cambridge College following their appointment to the University. Any work they carry out for their Colleges such as additional teaching, administration or pastoral care is governed by a separate contract and is remunerated through the College.

The Department has a thriving graduate and undergraduate school. **Table 2** shows the number of students. The majority of the Department's research students are on PhD programmes, but there is an increasing number studying for taught Masters degrees and a handful take the MPhil research degree by dissertation.

Table 2. Student members of the department.

Classification	Course	Number of students ^a	% female students
U/G	Year 1: not taught in the Department	—	-
	Year 2: Chemical Engineering	45	33
	Year 3: Chemical Engineering	57	33
	Year 4: Chemical Engineering	59	27
	Total U/G	161	31
PGT	MPhil in Advanced Chemical Engineering	12	24
	MPhil in Bioscience Enterprise	24	45
	MPhil in Biotechnology	8	24
	Total PGT	44	35
PGR	PhD	31	41
	MPhil by research dissertation	4	58
	MRes in Sensor Technologies	13	39
	Total PGR	48	42
Total		92	39

^aNumber of students for UG are based on 2019-20, whereas for PG they are based on the average of the last three academic years.

The strategic management board comprises the Head of Department (M), the two Deputy Heads of Department (1F), two further senior academics (1M, 1F), the HR Advisor (F), the Dept IT Manager (M), the Departmental Administrator (M) and the Technical Operations Manager (M) (**Figures 1** and **2**). There is considerable overlap between membership of the Strategic Management Team and the Athena Swan working group (ASWG) – see **Section 3.1** – demonstrating the high importance of the Athena Swan (AS) initiative within the Department.

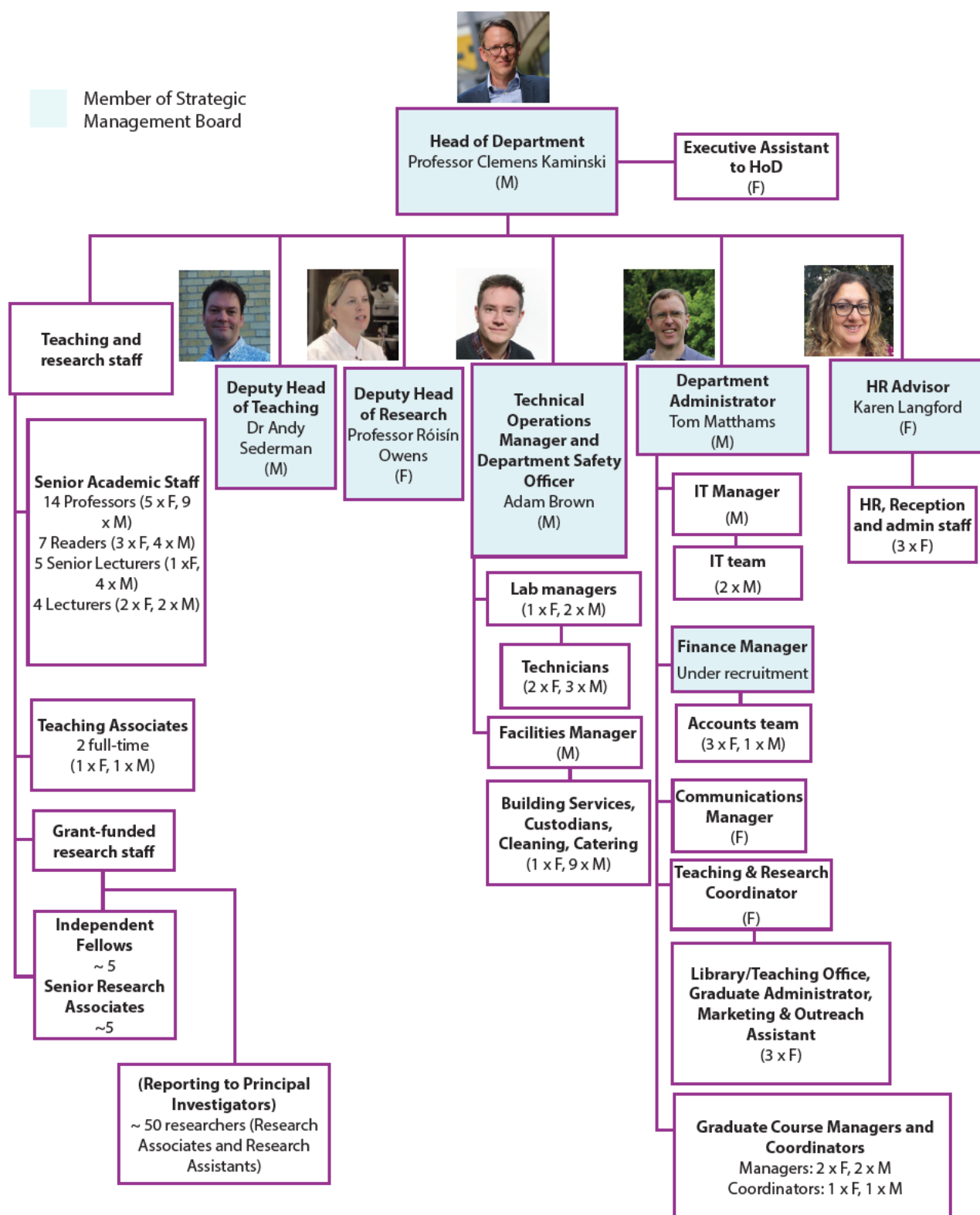


Figure 1. The organisational chart of CEB, October 2020.

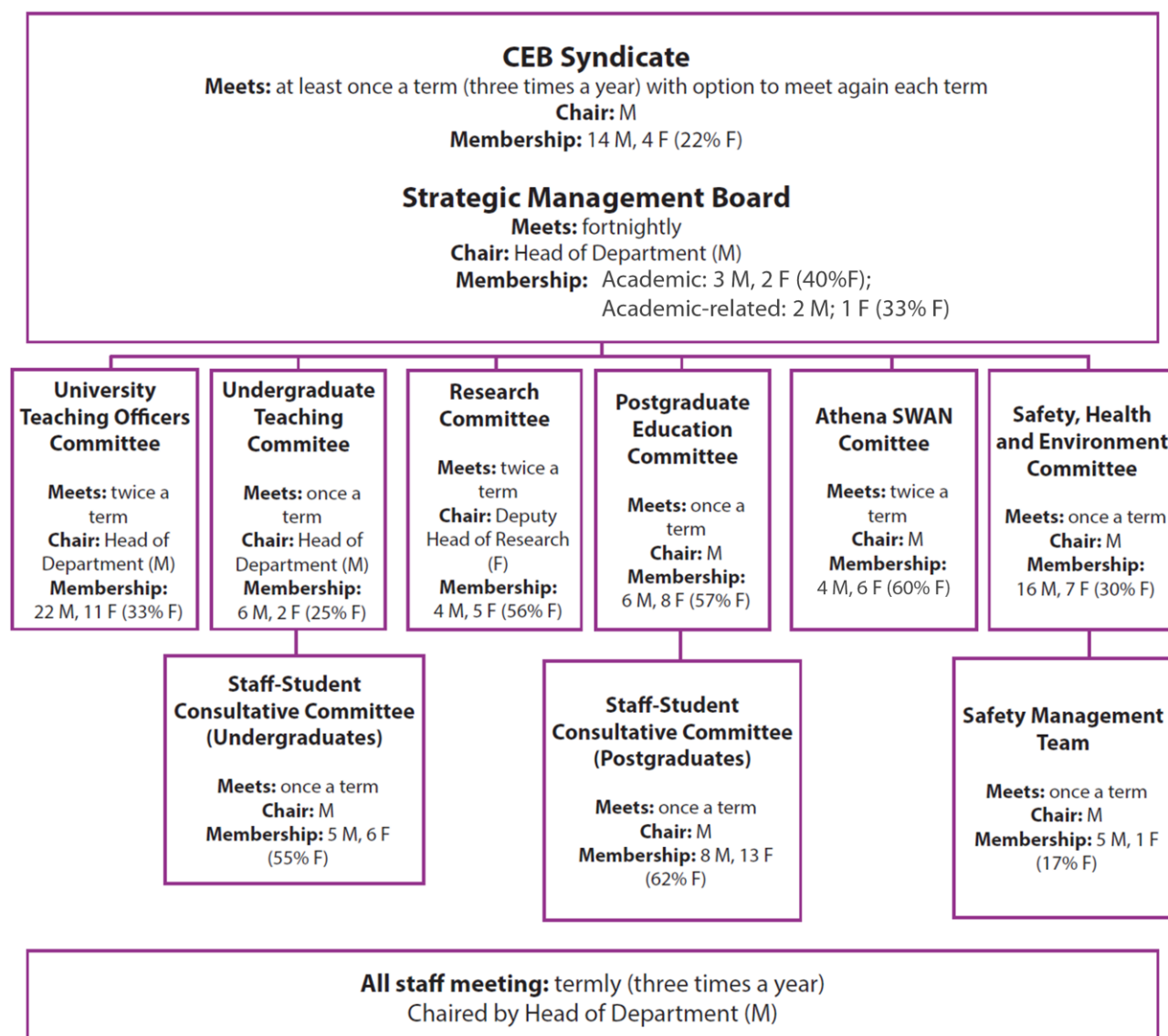


Figure 2. Governance structures and different committees of CEB.

CEB is committed to equality of opportunity and aims to ensure student admissions and staff appointments are made regardless of socio-economic background, sex, race, nationality, religion or belief, age, disability or sexual orientation. The Department actively encourages a number of family-friendly policies, including part-time working, modified working hours and support for the returning carers scheme, which has helped several members of staff to kick-start their careers following time away from the workplace.

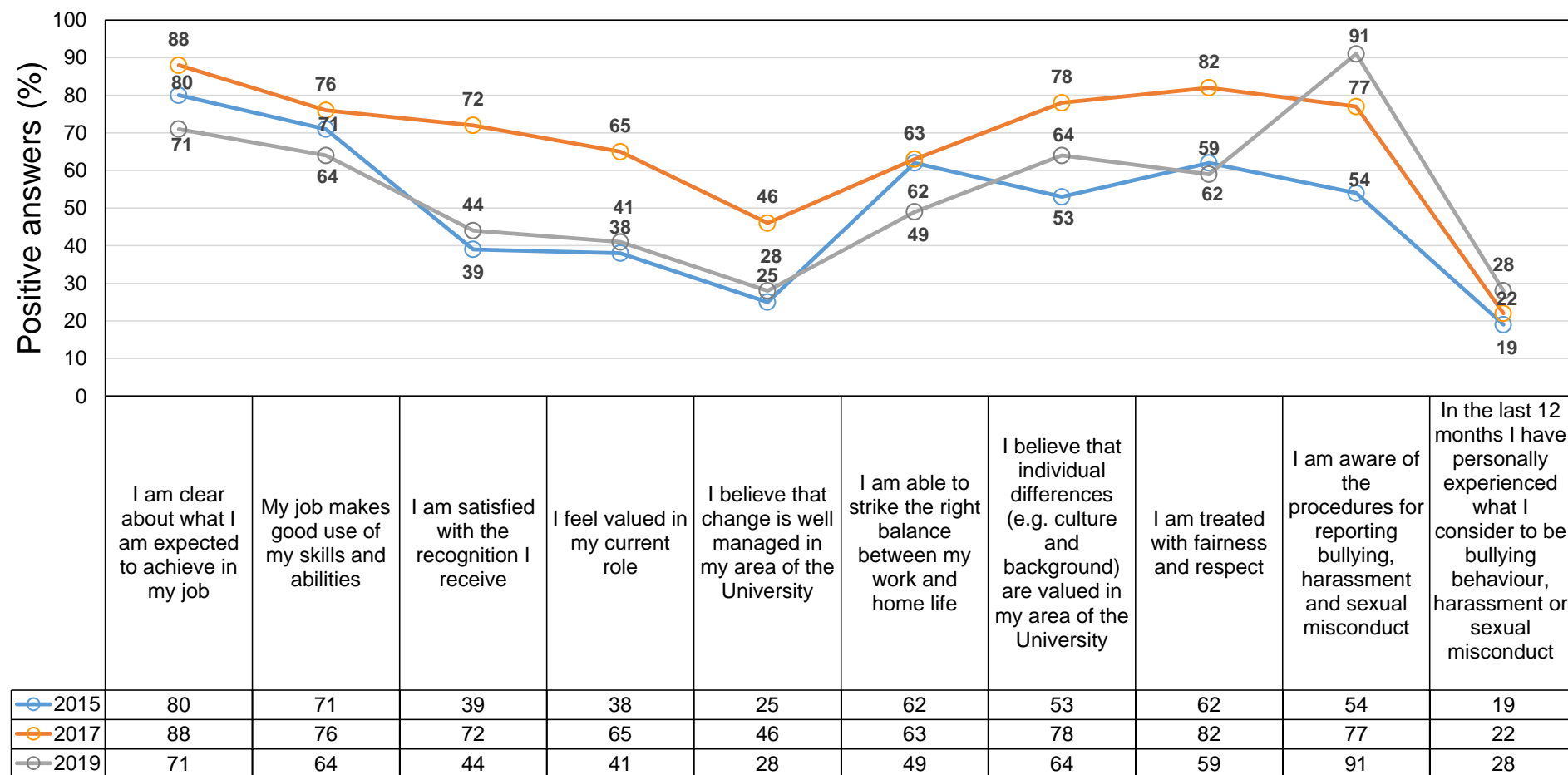


Figure 3. Comparison of selected, relevant questions from the staff survey in 2015 (blue), 2017 (orange) and 2019 (grey) at CEB. Note the general positive trend from 2015 to 2017 and the negative from 2017 to 2019 just after the reorganisation of the department.

After the move to West Cambridge, we started a massive reorganisation of the department. This created new opportunities by increasing the interaction of all the members, but also important challenges that needed to be solved. For example, there was a fear of job loss in some sections of the support staff – such as the lab-technicians section – that though they were going to be made redundant, they were not. A staff survey in 2019 showed a decrease in the % of positive answers to multiple questions (**Figure 3**). For example, it showed that only 28% (46% in 2017) of staff said that “change is well managed in my area of the University”, only 41% (65% in 2017) felt valued in their current roles, and 59% (82% in 2017) were treated with fairness and respect. To the specific question “In my experience, there is good communication between the different parts of my Department/Institute” included in 2019, only 48% gave a positive response. This shows critical issues on internal communication, something that we aim to solve by restarting **Actions 1** and **2**. All in all, better communication will improve the culture and trust, making the department more attractive.

ACTION 1: Re-start the Staff Committee to improve the internal communication of decisions in the Department. Hold term meetings for the whole Department on vision, challenges, opportunities and new changes being implemented.^a

ACTION 2: Improve transparency of Departmental committees, including minutes of meetings becoming available. Minutes of all the committee meetings to be included in CEB’s intranet to understand how decisions are taken.^a

^aFor each action described in this proposal, full details, including specific objective, rationale, outputs and milestones, timeframe, the person responsible, success criteria and outcome, are included in **Section 7**, Action Plan, following a S.M.A.R.T. approach.

[SECTION: 495 WORDS]

3. THE SELF-ASSESSMENT PROCESS

3.1 A description of the self-assessment team

Members from the Athena SWAN working group (ASWG) were appointed through a call for volunteers and invitations from the Head of Department. Members were selected by the HR advisor taking into account gender balance whilst also ensuring a balanced representation of different staff groups. The members are revised regularly by the HR advisor and chair of the committee. The team has 6 female and 5 male members; this is more female-heavy than the overall gender breakdown of the Department (50 vs 39%), but it is reflective of recent staff turnover in some roles. The team (**Table 3**) includes the participation of the HoD, the deputy HoD and the DA, linking to other senior committees. The University’s Equality & Diversity team staff have an open invitation to attend the meetings. We will expand our membership to include undergraduate representatives (**Action 3**). The ASWG has monthly meetings to review data and

survey results and to prepare the Athena Swan application. The team represents the breadth of individuals involved in CEB, and involves members of all Departmental governance committees, including the strategic management board (SMB), providing a vital reporting link.

Table 3. The self-assessment team of CEB, October 2020.

Name (gender)	Role in Department	Experience and Responsibilities
Dr Andrea Bistrovic Popov (F)	Post Doc Researcher	Andrea is a postdoctoral research associate. She is married and interested in promoting equality and diversity.
Cara Bootman (F)	HR Administrator	Mother of two school-aged children, works part-time as HR Administrator to fit in with caring responsibilities and is interested in promoting Wellbeing and E&D in the Department.
Andy Daniels (M) ^b	HR Advisor	Provides operational and strategic advice, information and support on all things HR related. He lives in Norfolk with his partner and they have three children.
Dr David Fairen Jimenez (Chair) (M)	Academic (Reader)	Juggles research, departmental roles and parental responsibilities of two school-aged children. Looking for improving EDI issues at the University and globally.
Ellie Hall (F)	Communications Manager	Has worked previously in the news and media team at the Royal Society of Chemistry, where she led communications activities for their inclusion and diversity projects, launching their Diversity landscape of the chemical sciences and Breaking the barriers reports
Prof Clemens Kaminski (M)	Head of Department	Father of two school-aged children and married to a fellow scientist with whom I share family and research interests. He directs the Sensor CDT and collaborate with the Centre for Global Equality to address cross-cultural challenges through large scale team efforts.
Tara Love (F)	Research Student	PhD student in Chemical Engineering. Passionate about improving EDI issues, and mentor for Women's Engineering Society and with The Brilliant Club for outreach to encourage women into STEM from an early age.
Dr Tom Matthams (M)	Department Administrator	Manages work-life balance with 3 school-age children.
Prof Roisin Owens (F)	Academic (Professor)	Mother of two school-aged children. Has teaching and research responsibilities and takes a keen interest in EDI issues
Dr Sam Stranks (M)	Academic (Lecturer)	Father of two, well aware of the challenges for two working parents juggling family and work life and hoping to make such juggling more manageable for all.

^bAndy Daniels, on a secondment, left CEB in (Oct 2020) and is substituted by Karen Langford (F) (Nov 2020).

ACTION 3: Include UG representation in the Athena SWAN working group to allow them to have a voice and to participate in the promotion of women in CEB and EDI activities.

3.2 An account of the self-assessment process

The Athena SWAN self-assessment team led to the creation of CEB's equality and diversity (E&D) committee to deal with more issues apart from gender equality. The main objective of the ASWG was to improve the E&D culture of CEB and to design a clear action plan (AP) to allow us to improve in this aspect. The ASWG has been meeting monthly in the last two years to analyse the data and prepare the application based on specific and relevant issues found from staff surveys and general discussions. We also benefited from the expertise of Dr Miriam Lynn and Ms Gina Warren, from the Equality and Diversity team at the University of Cambridge, who provided useful discussions and continuous feedback. To understand staff views and opinions and to develop the AP ensuring that we are addressing the fundamental issues, the Department conducted a Staff Survey in March 2019 (see **Figure 3** in Section 2, above); the response rate was low, 55% (78 participants; 35% F). **Figure 4** shows headline scores relevant for the ASWG. These results have been analysed and considered by various Committees, including the ASWG, in the formulation of a new strategy for the Department and our action plan (AP).

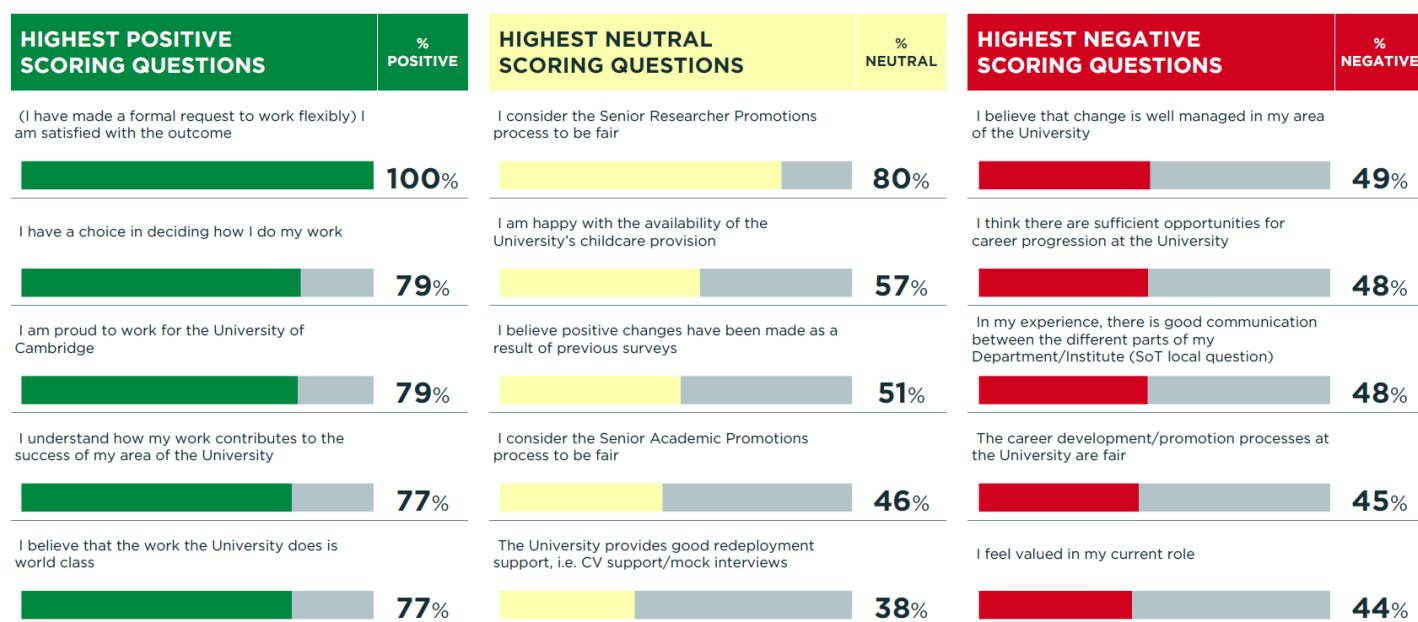


Figure 4. Headline scores with highest positive, neutral and negative scoring answers to the questions included in the 2019 staff survey.

Committee meetings are a forum where current challenges to the Department and potential solutions are openly discussed. Often, the University already offers useful resources such as courses in E&D, wellbeing, unconscious bias, race awareness, etc. and the Committee has been instrumental in promoting these to staff and students. Consultation with members of the Department includes staff surveys, communication via the staff e-newsletter, which invites feedback, and Committee members actively seeking the views of other members of the Department, both staff and students through focus groups and workshops. A webpage in the department has been assembled (**Figure 5**) to make staff as well as UG and PG students aware of the AS Charter and equality, diversity and inclusion issues and activities, and to

provide information regarding the duties of the ASWG, giving details of i) events and meetings concerned with AS and E&D staged by the Department/University; ii) links to further sources of information. This information is also distributed through a weekly departmental bulletin. The draft application has been reviewed by a 'mock panel' arranged by the University's E&D Section, and their input has been incorporated into the final submission and AP. The ASWG is also being supported by the E&D committee and by the SMB.

The screenshot shows the Department of Chemical Engineering and Biotechnology website. The header is purple with the department name in white. A navigation bar below the header contains links: Home, Department (selected), People, Research, Undergraduates, Postgraduates, Enterprise, Alumni, and News and Events. A secondary purple bar reads "Equality and Diversity at CEB".

On the left is a sidebar menu with the following items:

- Department of Chemical Engineering and Biotechnology (with an up arrow)
- Department (with an up arrow)
- Equality and diversity**
 - > [Diversity@CEB](#)
 - > [Family friendly](#)
 - > [Women in the news](#)
 - > [Athena SWAN Working Group](#)
 - > [Athena SWAN Bronze Award Application](#)
 - > [For department members](#)
 - > [Breaking the Silence](#)
- Contact and locations**
- History**
- Intranet**
- Postdoc**
- Health and safety**
- West Cambridge**

The main content area is titled "Equality and Diversity at CEB". It includes:

- A paragraph: "This Department welcomes staff and students from all over the world and we are proud of our diversity. We have people from many cultures and backgrounds, and many different academic backgrounds, achieving great things in CEB."
 - A photo of three people sitting around a table in a meeting.
- A paragraph: "The Department recognises the importance of creating of a diverse work and study community, in which all individuals are supported to achieve their full potential, and all individuals are treated fairly and equally. We are striving to achieve this, and our ongoing efforts have been recognised in our receipt of a Bronze Athena SWAN Award in 2016."
 - A paragraph: "We are due to submit a further application for an Athena SWAN award in 2020. Awards are time limited and departments and universities are required to reapply to maintain awards they hold, or apply for an award at a different level."
- The **Athena SWAN Bronze Award** logo.
 - A section titled "What is Athena SWAN?"
 - Text: "The Athena SWAN Charter was established in 2005 to encourage and recognise commitment to advancing the careers of women in science, technology, engineering, maths and medicine (STEMM) employment in higher education and research. In May 2015 the charter was expanded to recognise work undertaken in arts, humanities, social sciences, business and law (AHSSBL), and in professional and support roles, and for trans staff and students. The charter now recognises work undertaken to address gender equality more broadly, and not just barriers to progression that affect women."
 - Text: "More on [Athena SWAN](#)."
 - Text: "The [Athena Swan Working Group \(ASWG\)](#) is working to continue to promote and develop a positive and inclusive work and study environment for everyone."
 - Text: "Suggestions and ideas on how the Department can achieve this are always welcome. Please contact David Fairen Jimenez (df334@cam.ac.uk), Chair of the Athena SWAN Working Group, or Karen Langford (kal50@cam.ac.uk), CEB HR Advisor, if you have suggestions or could be interested in joining the Group."
- A section titled "University Information"
 - Text: "The University's [Human Resources Division](#) website, which includes"
 - [Equality and Diversity](#)
 - [Inclusive Cambridge: Promoting Gender Equality](#)
 - [Events](#)
 - [WiSETI](#)
 - [Personal and Professional Development \(PPD\)](#)

On the right side of the main content area, there is a section titled "Equality and Diversity Events" with a sub-link "E&D Events".

Figure 5. Snapshot of the Equality & Diversity website at CEB.

The AP will be formally launched at the Staff Meeting. We will develop an ambitious communications strategy to engage staff and students in the work of the ASWG throughout the cycle of the AP, including termly newsletters, updated intranet pages and noticeboards in staff and student areas. We will also hold an annual E&D seminar to reflect upon progress on the AP. The key areas of focus within the AP will be:

- To improve internal communication and the transparency of Departmental committees, including making minutes of meetings available (**Actions 1-2**).
- To reinforce strategies such as women role models in seminars and outreach activities with the aim of increasing women visibility in STEM and increasing the number of women applying to our department as UG students (**Actions 26-28**).
- To analyse and include a mechanism to solve the attainment gap in UG students, using the recently created University's pilot scheme (**Action 6**).
- Developing more explicit policies concerning bullying, harassment and discriminatory language and behaviours and effectively communicating these across the Department (**Action 23**).
- Encouraging more female staff to apply for promotion (**Action 13**).
- Developing structures and resources to support students and staff with caring responsibilities to engage with Department life (**Actions 21, 22**).

3.3 Plans for the future of the self-assessment team

The ASWG will meet twice a term. Each term, one meeting will focus on ongoing initiatives in the Department, and the second will assess our progress on the Athena SWAN AP. Minutes will be published in the intranet (see **Action 2**). We believe that having regular meetings dedicated to the AP will enable us to monitor progress and implement positive changes. We will maintain membership as people leave through regular invitations to all members of the Department and careful selection from the HR advisor and Chair to maintain balance. To highlight the fact that we do not see the ASWG as a minor committee, we will increase the number of senior members (Readers and Professors) (**Action 4**). In the first instance, the Athena Swan Chair will remain in post to keep momentum at the start of the AP. However, this role will be rotated where appropriate. The Departmental Administrator will remain the administrative lead and secretary for the group to ensure continuity.

Current reporting channels will continue, including our weekly bulletin and up-to-date online profile on the departmental website and social media. We will reinforce the ASWG representation on other key committees, including the SMB. To spread the Athena SWAN ethos, we will invite guest speakers to present during a series of E&D guest lectures in CEB on equality issues, with an open invitation across the University (**Action 4**).

ACTION 4: Increase senior departmental participation and buy-in to the Athena SWAN Charter, extending a series of E&D guest lectures to spread the Athena SWAN ethos. Hold an annual update meeting for the whole Department on progress against the Athena SWAN action plan and other initiatives.

[SECTION: 1023 WORDS]

4. A PICTURE OF THE DEPARTMENT

4.1 Student data

(i) Numbers of men and women on access or foundation courses

N/A

(ii) Numbers of undergraduate students by gender

At Cambridge, undergraduates are admitted by one of the 31 autonomous colleges. Departments have no control over the entry to a specific course. All Colleges admit ChemE students and all study full time. UG ChemE students access through a first year in Engineering or Natural Sciences; **Figure 6** shows the proportion and overall numbers of female and male students applying and getting an offer on Year 1. Although the numbers show more applications from men, the proportion of applications and admissions is similar: overall, in the last three years, we received 33% female applicants, and 34% received an offer. Although this value is twice the HESA national average percentage of women in engineering and technology (17%), this is very far away from achieving gender balance. In our case, the main limitation to reach gender equality stems from the low number of female applicants. This is a major issue that, as described below in detail, will impact the whole pipeline of women progressing through from PG students to research and academic positions. To increase the number of women applicants, we will make efforts on increasing visibility of women role models, at different career stages, in seminars and outreach activities (please, see **Sections 5.6.vii** and **5.6.viii** and **Actions 26, 27** and **28** for full details).

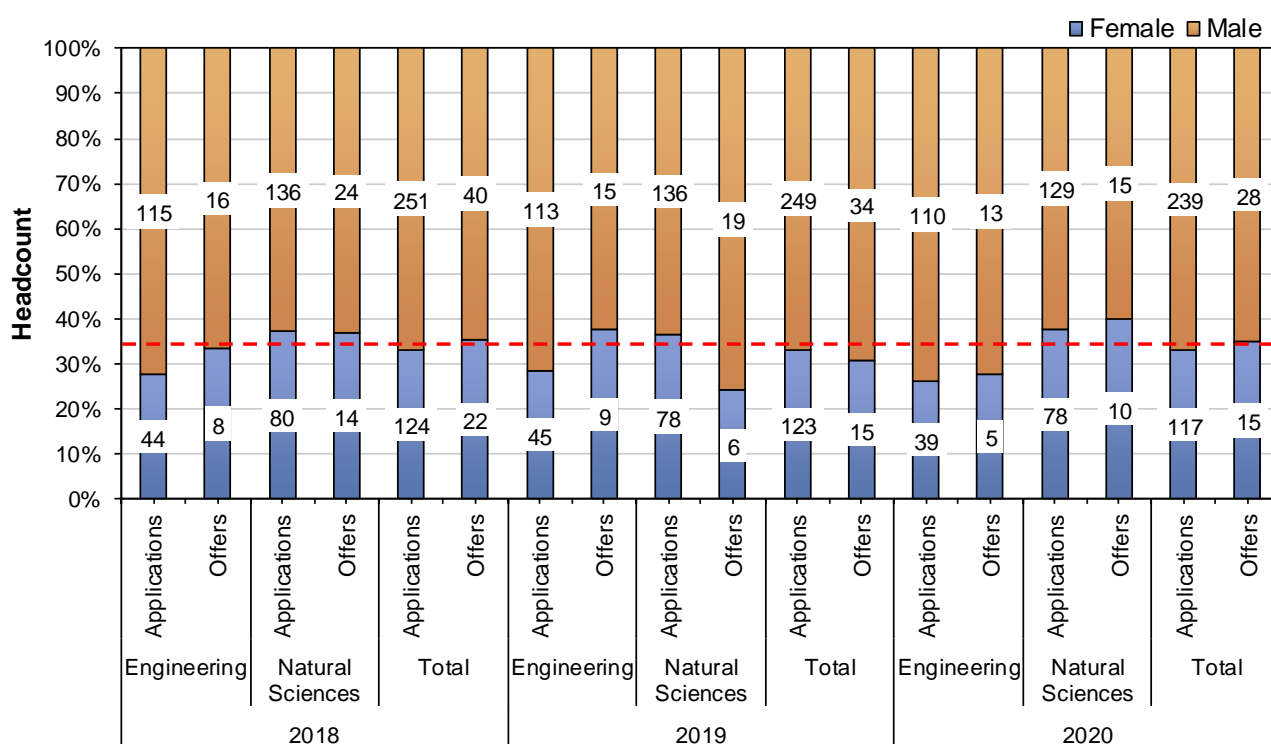


Figure 6. Percentage and absolute number of female (blue) and male (orange) undergraduate (UG) students applying and receiving an offer on Year 1 in Engineering and Natural Sciences. The red line shows the average on offers (34% in the last years), which should be compared the national average for engineering and technology UG courses (17% benchmark, HESA 2013-14).

Figure 7 shows the overall number of female and male students in the undergraduate CE course. Importantly, the trend goes up, slightly, in later years (32%, 2019; 34%, 2020), which could suggest that,

even if we have a long way to reach ca. 50% of female applicants, our efforts are going in the right direction. We will continue to assess this through annual admissions reports, escalating to the ASWG where there is a concern (**Action 5**).

ACTION 5: Assess annual reports on undergraduate admissions to remain vigilant against any emerging gender biases. We will Prepare an annual report summarising the number of applications, offers and acceptances, as well as final marks by gender.

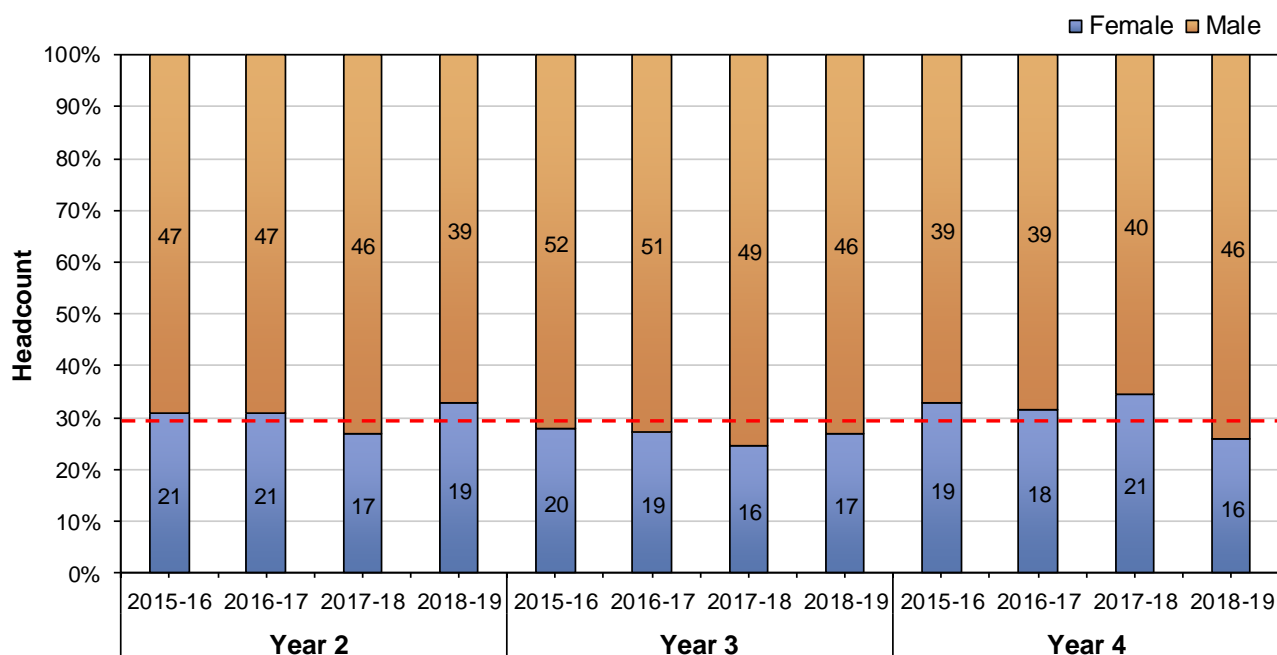


Figure 7. Percentage and absolute number of female (blue) and male (orange) undergraduate (UG) students at different years. The red line shows the average (29% in the last years); the benchmark is the national average for engineering and technology UG courses (17%, HESA 2013-14).

Figure 8 shows the overall numbers and percentage of final years male and female students achieving a 1st, 2.i, 2.ii or 3rd. Male and female students are effectively equally successful in attaining an upper second class degree or above, which is many times the requirement to progress to postgraduate study. Although in the last three years, 94% of female students achieved 1st or 2.1 compared to 87% of male students, when looking in more attention, 28% of female students achieved 1st compared to 41% of male students. The University has set up a pilot scheme to develop a task force to help departments with attainment gaps. We will seek advice on this matter and we will work towards ways to address this actively. We will instruct the exam boards to report to UTOC annually on undergraduate achievement based on gender, escalating to the ASWG where necessary to assess if further action needs to be taken (**Action 6**).

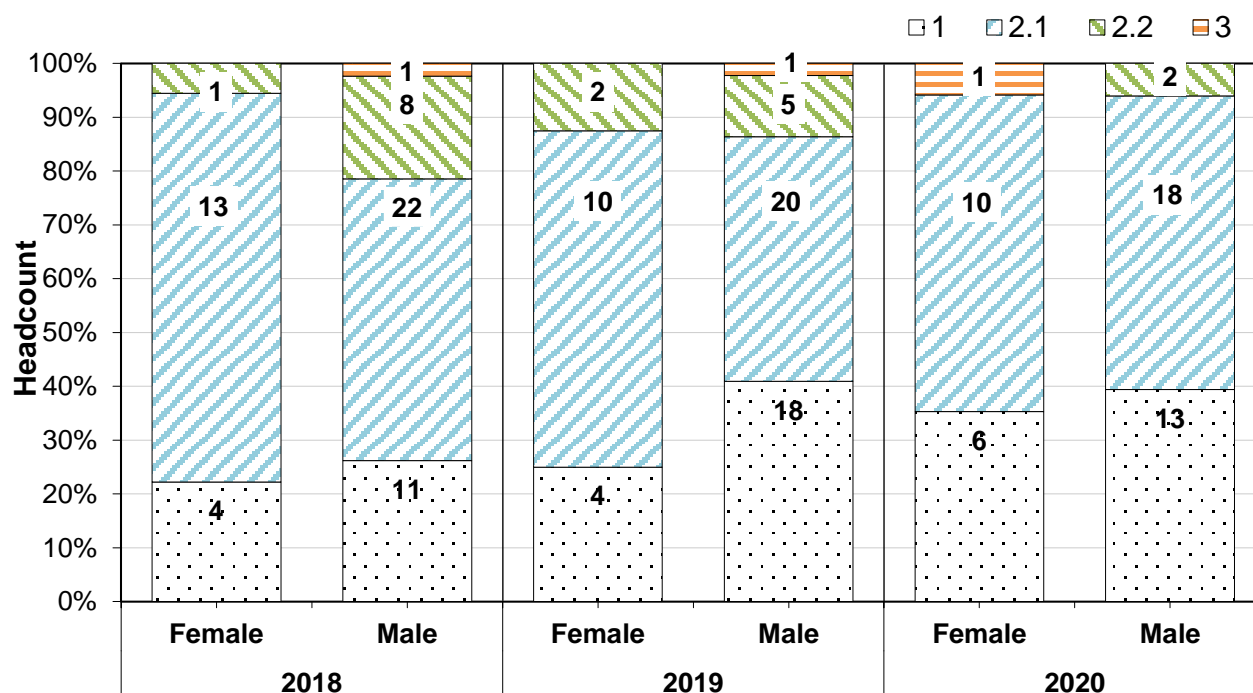


Figure 8. Percentage and absolute number of final year students achieving different grades.

ACTION 6: We will seek advice and work towards ways of addressing attainment gap at CEB. We will review gender differentials by attainment on an annual basis to solve this issue. Our objective here is to reduce the attainment gap by 20% p.a. until we reach similar values for men and women.

(iii) Numbers of men and women on postgraduate taught degrees

We deliver three postgraduate taught (PGT) degrees, the MPhil in Advanced Chemical Engineering (ACE), the MPhil in Biotechnology (BIOTECH, est. in 2018-19), and the MPhil in Bioscience Enterprise (MBE). **Figure 9** shows the proportion and absolute number of female students (applicants, offers, and confirmations) in the courses over time and the comparison with different benchmarks. The proportion of female students at the ACE was averaging at 35% but, due to the important drop in the 2019-20 year, it went down to 28%, just above Benchmark 1 (HESA national average for chemical engineering, 26%). In contrast, the proportion of female students in the MBE averaged 47%, just below Benchmark 2 (HESA business courses, 53%). The BIOTECH is quite new and although it averaged a very low 21%, it is also showing an important increment (100% in one year) in the number of female students. Besides, the absolute numbers are very low (e.g. in 2018-19, only 7 students were recruited, 1 female). Looking in detail, the ACE proportion of applicants and confirmations (accepted positions) shows a preference to recruit more male students, whereas in the MBE the situation is the opposite. We will keep track of these to check gender bias during the admission and examination of our PG students (**Action 6**).

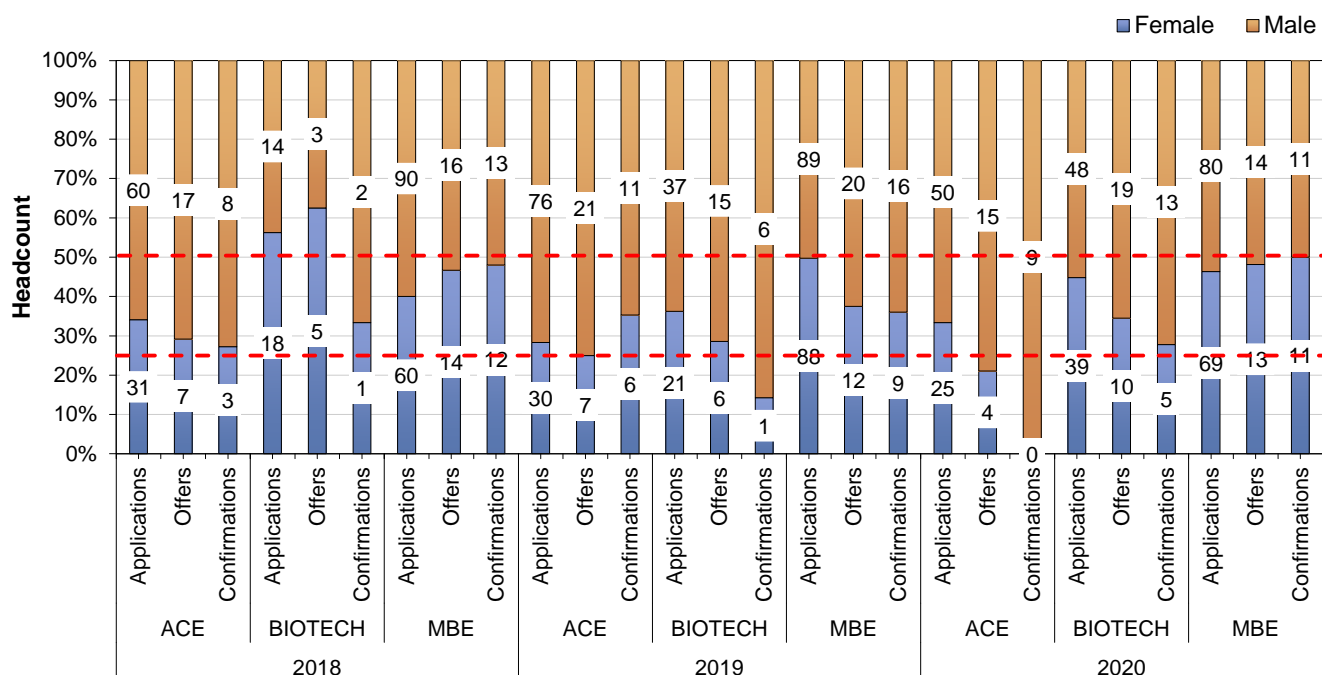


Figure 9. Proportion and absolute number of female students on PGT courses over time (applicants, offers, and confirmations) for the MPhil in Advanced Chemical Engineering (ACE), the MPhil in Biotechnology (BIOTECH), the MPhil in Bioscience Enterprise (MBE); the numbers indicate the absolute values. Two benchmarks are included for comparison (red, dotted line), Benchmark 1 is the national average for chemical engineering PGT courses (26%, HESA 2018-19); Benchmark 2 is the national average for business PGT courses (53%, HESA 2018-19).

(iv) Numbers of men and women on postgraduate research degrees

Out of our PGR courses, 93% of the graduates study for a PhD, either through a PhD on Chemical Engineering or Biotechnology as well as the Sensor DTC, with the remainder studying for an MPhil in Chemical Engineering by research. The graduate population is highly international, and admission is determined by suitability for graduate study and access to funding. **Figure 10** shows the proportion of female students in the courses over time. In terms of the MPhil by research, although the numbers are dominated by female students, it is also true that the absolute numbers are very low (e.g. in 2017-18, 1 female student was 100% of the cohort), limiting any statistical analysis. Looking at the PhD students, the 5-year average values are similar for all the existing programmes (38%). We still believe there is always scope to increase the proportion of female applicants and for this, we will continue advertising successful women in CEB and encouraging inclusivity (see **Sections 5.6.vii** and **5.6.viii** and **Actions 26** and **27** described there).

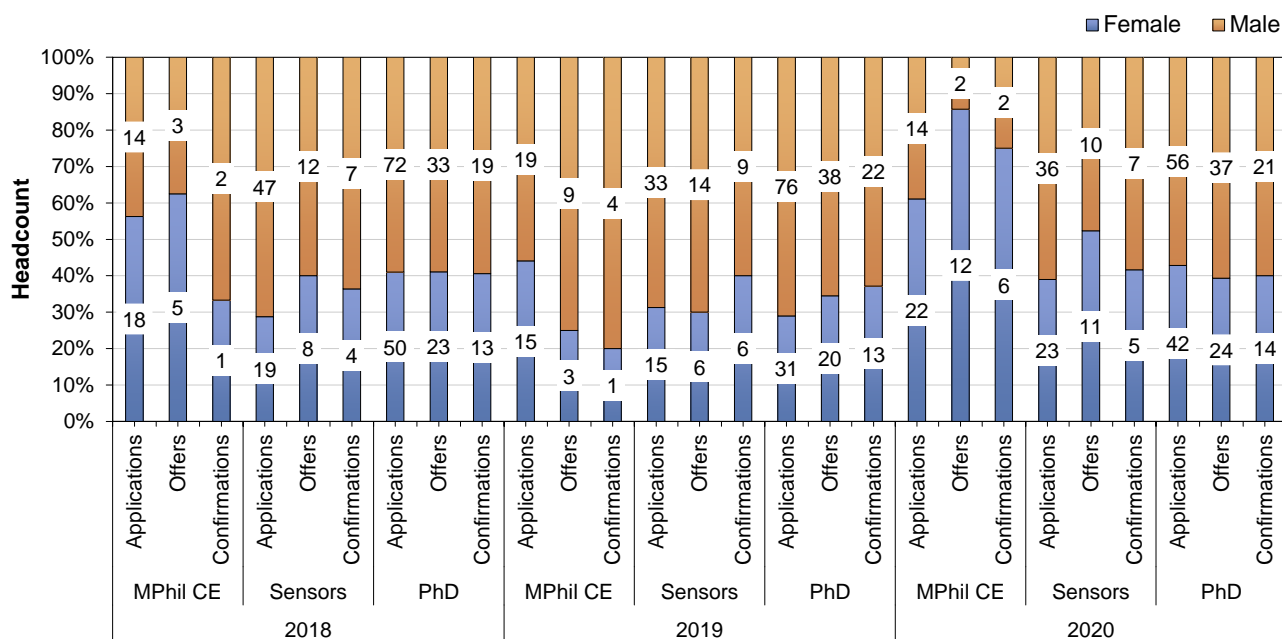


Figure 10. Proportion and absolute number of female students on PGR courses over time (applicants, offers, and confirmations) for the MPhil by research in Chemical Engineering (MPhil CE), MRes in Sensor Technologies (Sensors), and PhD in Chemical Engineering or Biotechnology (PhD); the numbers indicate the absolute values.

(v) Progression pipeline between undergraduate and postgraduate student levels

In line with national averages of students taking chemical engineering, we have a higher proportion of males (69%) than females (31%) at undergraduate level – HESA benchmarks is 17% female. This gender gap in our female to male balance is reduced when looking at the postgraduate level, with an average of 40% of women in PG courses – HESA benchmark is 26% for ChemE PGT and 53% for business PGT courses. Looking at how the progression pipeline takes place, we have seen that ca. 90% of the current PG are not coming from an UG in Cambridge; most UG from Cambridge will move directly to positions in industry. For this, we will raise awareness among female undergraduate students of opportunities for postgraduate studies and beyond (**Action 7**). **Figure 11** shows the proportion of female PG students in the last 5 years. This balance has been maintained; in the last years, the proportion of women in PGR courses has increased whereas the proportion in PGT courses has reduced. We are committed to further promote the continuation of female students from undergraduate to postgraduate level – the main issue we identify here is again the reduced number of female UG applicants. If this situation is improved, eventually, it should translate to increased numbers in PG applicants (see Sections 5.6.vii and 5.6.viii and **Actions 26** and **27** described there).

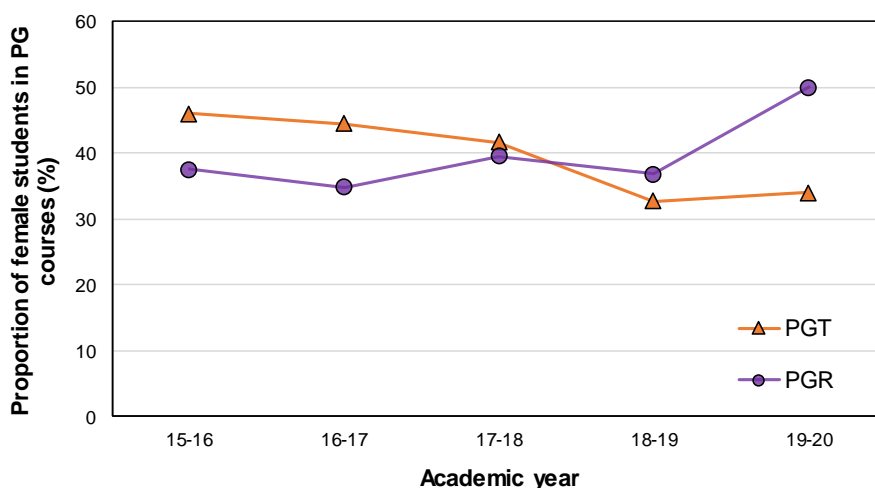


Figure 11. Proportion of female students in PG courses in the last 5 years.

ACTION 7: We will raise awareness among female undergraduate students of opportunities for postgraduate studies and beyond. Although the proportion of female postgraduates is higher than at undergraduate level, there is still a gender gap that needs to be reduced. Led by female role models within the Department, we will initiate an annual discussion for undergraduates highlighting progression opportunities to postgraduate study.

4.2 Academic and research staff data

4.2 (i) Academic staff by grade, contract function and sex: research-only, teaching and research or teaching-only.

All research staff in our department are research-only roles, typically postdoctoral researchers linked to research grants. Most of the other grades within the Department are research-and-teaching positions; we also have two teaching-only staff (2M). Most of the positions at academic and research level are full time.

Figure 12 shows the academic pipeline in the Department for years 2018 and 2020 as well as the average from the last years; some of the absolute numbers are very low (e.g. in 2018, there was only one (M) Reader), which could limit any conclusions.

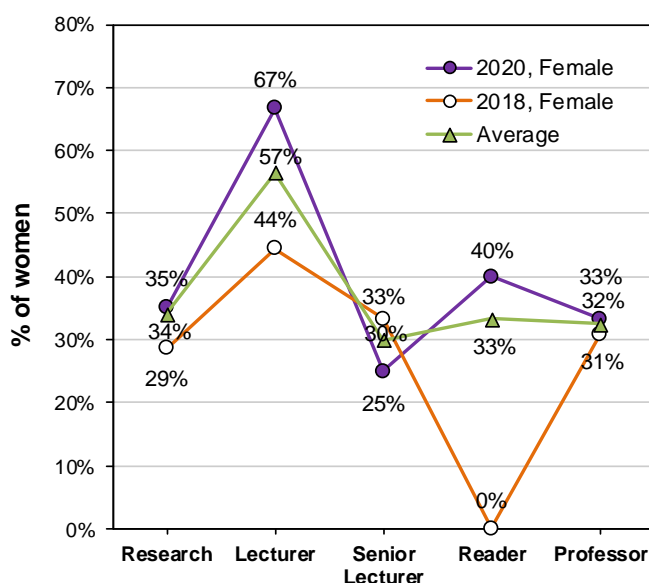


Figure 12. Academic pipeline at CEB during 2018-20.

On average, the number of women at the Research level (34%) is roughly found between the undergrad (31%) and the postgrad (40%) levels, although the year-evolution shows a small increase from 29 to 35%. When split between postdoctoral researchers (PDRs) and senior research fellows (SRF), we see important differences. While for PDRs the proportion of females is 32%, this proportion increases when looking at SRFs (56%) (**Figure 13**). We are proud of our track record in recruiting female senior research fellows, far exceeding the average within the SoT (21%), but we recognise that we have a much lower proportion of women at postdoctoral researcher level. Due to the nature of the postdoctoral application process – where the PIs manage many times the recruitment process – it is difficult to collect data on applications. We believe the potential reasons could be a lower number of female applicants or a potential bias. For the first possibility, we will continue insisting on successful female role models in CEB. For the second possibility, we intend to continue with our push on recruitment training to mitigate unconscious bias, with the aim of reducing the gender gap when recruiting postdoctoral staff (**Action 8**).

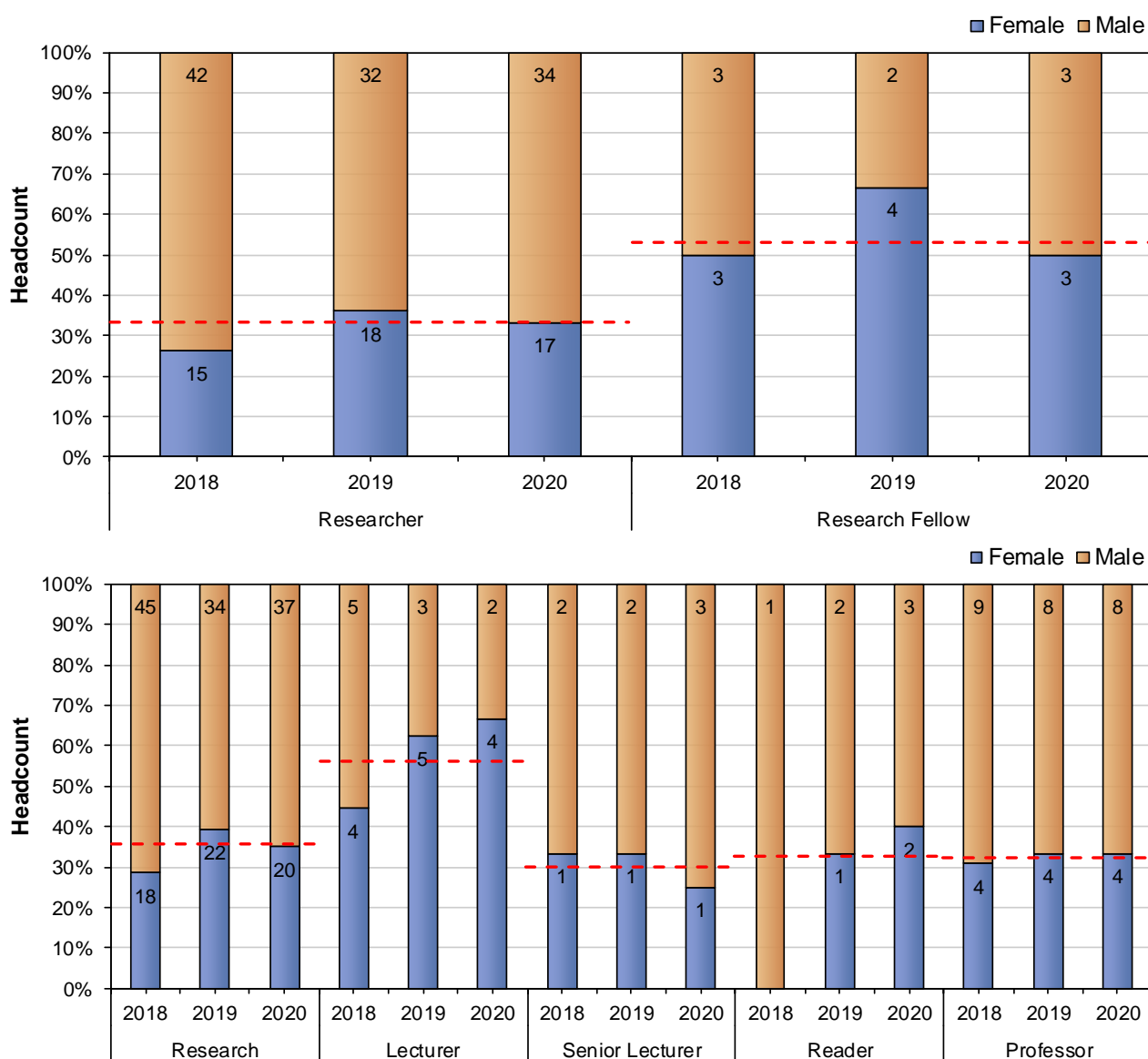


Figure 13. Proportion and absolute number of female students on PGR Academic pipeline in the Department and female-male proportion. Red dotted lines indicate the average values. HESA national average in Chemical Engineering departments is 28% female.

ACHIEVEMENT: In only two years, we have increased the number of women appointed as lecturers in the Department, from 44% in 2018 to 67% in 2020, continuing the trend of the last years. Our current proportion of female academic staff is 37%, above the national average in Chemical Engineering (28% in 2018-19).

ACHIEVEMENT: In only two years, the number of women on Readerships has increased from 0% in 2018 to 40% in 2020, while the number of women on Professorships has increased from 31 to 33%.

ACTION 8: Ensure all Department members on selection committees have undertaken training on best practice in recruitment to mitigate potential unconscious bias on selection committees. We will implement and publicise a change in departmental policy such that participation in recruitment training is required for serving on any recruitment panel. Although current policy requires just one member on each committee to be trained, we will require a minimum of 80% to be trained on best practice in recruitment.

On the Lecturer level, the increase between 2018 and 2020 has been very important (44 to 67%) due to the higher number of women been recruited in the last years. This has been the result of a number of initiatives aimed at improving our gender balance at all levels, such as ensuring the representation of women in interview panels and at the strategic committee (SMB). This led to a very successful translation to promotions thanks to the HoD's support – in 2018, CEB did not have any women at Readership level, but this has increased to 40% (2F) in 2020; again, note that the numbers are small and the discussion is limited. On the Professor level, the situation has not changed too much (31%, 2018, to 33%, 2020), as this will take time. Besides, the HoD will encourage women to apply for promotion. We do hope that a new culture resulting from our AP will help to reduce the gender gap in the following years.

The department is very concerned with the fact that we have no BAME academic staff, which we recognise as an important issue. We want to engage with the University action plan to see how we can solve this problem (**Action 9** – see also **Action 11**, below). On the research level, we have an average of 32% BAME (20% F; 37% M). The University has recently become a member of the Race Equality Charter and the Department looks forward to proactively supporting any future measures that arise from this initiative. Since February 2019, we have included a statement in adverts and job descriptions where there is underrepresentation from Black, Asian, and Minority Ethnic backgrounds, such as academic positions.

ACTION 9: Promote and actively engage with the University's Race Equality Action Plan and the intersection between gender and ethnicity, translating action onto a local level (see **Action 11**).

4.2 (ii) Academic and research staff by grade on fixed-term, open-ended/permanent and zero-hour contracts by gender

Figure 14 shows the evolution of the proportion and absolute numbers of academic staff on fixed and permanent contracts; there are no academic or research staff on zero-hour contracts. When looking at the research staff, the data is misleading. Permanent research staff in this context are individuals in open-ended contracts linked to funding, who will require longer consultation processes at the end of their funding period. In any case, the proportion is currently consistent between men and women, although the proportion of female researchers on so-called permanent contracts was higher in the past. For academic staff, all our members within the Department are currently on permanent contracts. The one male academic on a fixed-term contract in 2018 was recruited to fill a research and teaching gap with limited funding and was a supernumerary position. We believe this demonstrates that there is no gender bias in terms of contract type among research and academic staff.

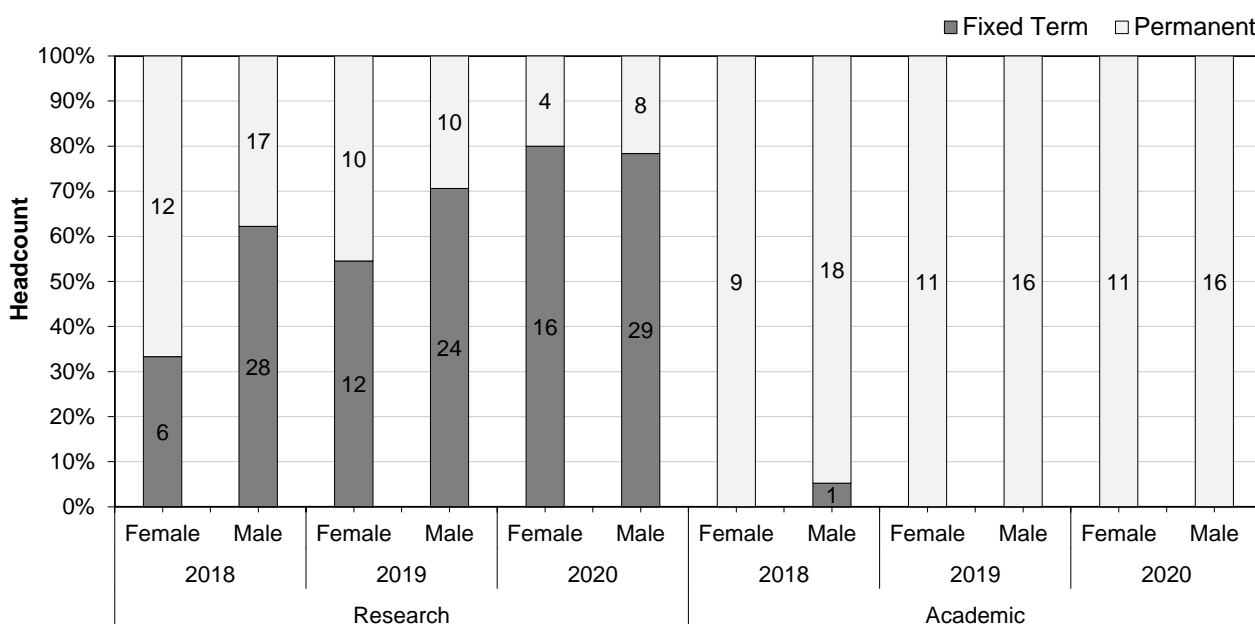


Figure 14. Percentage and absolute number of female and male research and academic staff by contract type, fixed term (dark grey) and permanent (light grey).

4.2 (iii) Academic leavers by grade and gender and full/part-time status

Figure 15 shows the turnover of leavers by group and gender averaged through the last three years (i.e. the number of leavers by gender divided by the total number staff in that group as well as the absolute numbers). As above, some of the absolute numbers are very low – 1 male in the past three years – limiting any meaningful conclusions. Among researchers, turnover is due to a combination of limits of tenure due to funding and staff moving on to other opportunities. There is a difference on gender turnover (total number = average of 18 p.a.; 22%F, 44%M) but we believe this could be related to the low numbers involved, and especially for women (4F, 17M). The same situation arises when looking at academic-related

staff – there is a big gender difference on the proportion (total number = average of 5 p.a.; 27%F, 0%M) but the absolute numbers (1F, 0M) shows that only one female has been involved. On average, we still see a bias on turnover (total number = average of 33 p.a.; 16%F, 29%M) due to the differences in the research staff. We do not currently monitor with precision the reasons that staff leave the Department. However, as part of the *ourcambridge* review, we are now offering exit interviews if leavers would like them and so we can identify any trends in order to help identify any issues or biases around the reasons for leaving and the future careers of our staff (**Action 10**).

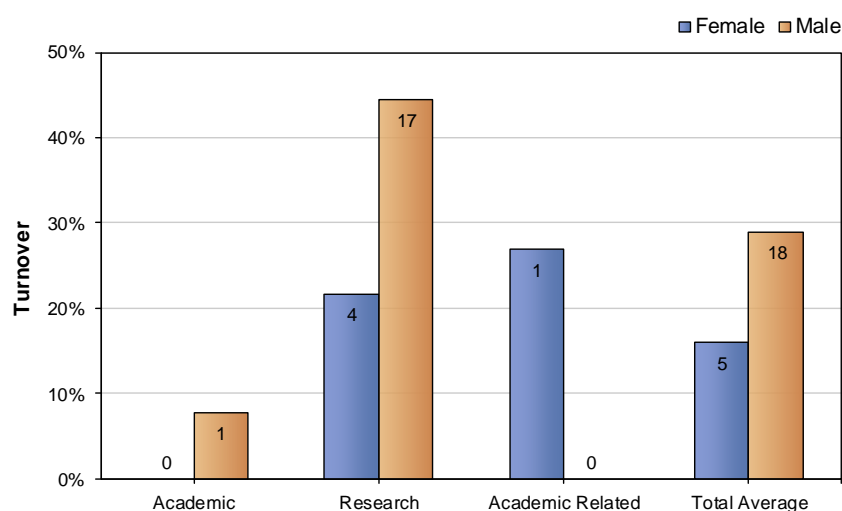


Figure 15. Turnover of leavers by group and gender, averaged on the last three years.

Ourcambridge. The Our-Cambridge Team began working with professional support staff (admin and technical) after the Department restructure in 2019 to help with new ways of work. Their remit was to look at increased communication and the streamlining of processes across sections to develop new and effective ways of working. Currently, a group of professional support staff have reviewed the starters and leavers processes to enhance their experience and to make the process easier for those implementing them. Both processes are now accessible online, which ensures easier access to information for all stakeholders.

ACTION 10: Gather data on staff leaving the Department to gain an understanding of why people leave the Department to monitor any gender or other biases. and act on any gender biases detected in the data. Results will be reported annually to the HR advisor to take action on occurring issues.

[SECTION: 1984 WORDS]

5. SUPPORTING AND ADVANCING WOMEN'S CAREERS

5.1 Key career transition points: academic staff

5.1.1 Recruitment

We actively encourage applications from women. Job advertisements are reviewed by the HR Administrator for unconscious bias/discrimination and gender neutrality. All job postings include the phrase "The University values diversity and is committed to equality of opportunity". Whilst all job advertisements include a downloadable document detailing "Further Information" about each role, these documents are now more explicit about University benefits such as flexible working options, family leave policies and salary sacrifice scheme for childcare, which will reinforce our commitment to these areas.

Specific language is added to our advertisements to encourage women and underrepresented minorities to apply. Here, intersectionality is particularly important – we are looking to receive more applications not only from women but from BAME women (**Actions 9 and 11**). In particular, our recent postings included the following "We particularly welcome applications from female candidates and those who self-identify as BAME, who are currently under-represented in the Department." HR staff now use social media channels to advertise jobs through networks such as 500 women scientists, Stemettes, Science Grrl, Women in STEM Brainiacs, The Fawcett Society and more.

The proportion of women in academic positions in CEB is gradually increasing. Since the last submission to AS, the proportion of female academics has increased from 22 to 37% – this is a substantial change and is above the national average of 28% in 2018-19. Academic turnover is small; therefore, the process is inherently slow, but of the last 10 academic appointments (since 2014), 60% of these have been female and, hence, the Department is steadily moving towards equality. As described above, currently, 67% of the Lecturers are women. We will help to keep this trend by establishing a search committee of at least three members for all academic vacancies, which will identify and approach strong female candidates for each vacancy. The committee will also be responsible for consulting widely through the Department in order to identify potential candidates and bring the vacancy to the attention of all staff (**Action 12**).

ACHIEVEMENT: In the last 5 years, the proportion of female academics has increased from 22 to 37%.

ACTION 11: Include actions to improve the number of BAME and in particular BAME women applicants for academic positions. For example, introducing text to job adverts that encourages BAME applicants to apply for staff positions. We will seek improved reporting by the central University on ethnicity and other recorded data.

ACTION 12: Identifying and encouraging the best female applicants for senior academic staff vacancies. Female academic staff will be encouraged to apply for promotion by their appraiser and HoD. HoD will meet with all senior research fellows at year 3 of fellowships to discuss career progression opportunities within and outside the Department.

5.1.2 Induction

The University provides an online induction programme for all staff, explaining how the University works; training can be updated through workshops and courses through Personal and Professional Development (PPD) – see below. PPD also hosts a ‘Welcome to Cambridge Event’ several times a year. Within the department, induction occurs on several levels. The first, immediate induction is a meeting with an HR administrator. This is a one-to-one meeting that covers basic employment matters such as pay and benefits, IT information and details of Health and Safety training. All staff are given a welcome pack containing further information. Part of the induction process involves individual online training that should be taken within the first week. These training sessions include training on:

- Equal Opportunities and Diversity
- Bribery Act Training
- Prevent Training

Although all staff at CEB are required to take ED&I training, by November 2018, only 76% completed it. After continuous efforts directed from the ASWG and HR, this has increased up to 92%. We will implement a new policy where, similar to safety training, access to CEB is dependent on having completed this training (**Action 13**). The induction training is followed by a meeting with the immediate manager. For academic appointments, this is the Head of Department; for PDRAs, it is the supervisor. In the case where academic staff are on probation, goals are set for the probation period, with a follow-up meeting scheduled before the end of the probation period.

ACHIEVEMENT: In the last staff survey, 71% (F) and 65% (M) of both genders agreed that “My local induction gave me the information and knowledge I need to do my job effectively” and that “When I joined the University, I was able to find out relevant information about how the University operates”, respectively. This is an increment of 27 and 30 %-points, respectively, from the last survey two years before.”

ACHIEVEMENT: ED&I training numbers have increased from 76 (2018) to 92% (2020) for both genders as a result of making it compulsory to have access to CEB.

ACTION 13: Ensure that all staff members in the Department comply with the compulsory ED&I training, preventing their access to the building if training is not completed.

New academic staff are offered the possibility to participate in the University training schemes run by PPD; training is discussed during appraisals. Training schemes include a mixture of online and taught courses on the general themes of Leadership Development, Career Development, Career Planning and

Professional Development. New academic staff are appointed a PPD contact who assists with development during the probation period. For new academic staff, there are resources available to help with grant management and applications (run by the Research Operations Office) and also for teaching (Cambridge Centre for Teaching and Learning, CCTL). PDRAs and SRAs can also access these courses and have the option to do bespoke courses (e.g. the Teaching Associates Program). The CCTL also award an annual teaching prize (The Pilkington Award), awarded to Dr Sarah Rough at CEB in 2018.

5.1.3 Promotion

Regular information sessions on the Senior Academic Promotions (SAP) exercise have been held at a University level and advertised to staff. Our 2019 staff survey highlighted the transparency and fairness as a critical issue, with only 25% (39% at the University level) of positive responses to the question “The career development/promotion processes at the University are fair” (data was not split based on gender). Besides, due to the impact of COVID19, the SAP exercise has been paused. Since our last Athena SWAN application, CEB has put in place a number of measures to support and promote women already in the department. These include assigning mentors (an established member of staff within the department) to all academic staff; mentors give information and pro-active support in the construction of cases for SAP. There is also a CV review/mentoring scheme to help candidates, and promotions – and required steps – are discussed during appraisals. The HoD is also required to review, and will continue reviewing (ongoing **Action 14**), the gender balance of applications and provide an explanation to the Chair of the Faculty Committee when they are not in proportion to their representation in the proximate less senior office. Feedback on unsuccessful applications is provided by the HoD but the success rate of women during SAP at CEB has been a big achievement. Amongst the academic staff, between 2016 and 2020, there have been five promotions to Professor (2 female), six to Reader (3 female) and two to Senior Lecturer (0 female). In order to preserve anonymity, the data on applications for promotion have been combined and are shown in **Table 4**. We note that 6/16 (38%) of applications for promotion have come from women, while women account for 4/9 (44%) of the successful promotions. The number of applications (38%) is comparable to the proportion of female academics in CEB (currently 37%), whereas the success rate is higher, with an overall 67% success rate (2018-20). In the last two years, all the women that have applied have been successful (100% success rate).

Table 4. Senior academic promotion applications and successes at CEB.

Year		Total	Female	% Female	Female success rate (%)
2018	Applications	7	3	43	33
	Successful	3	1	33	
2019	Applications	4	1	25	100
	Successful	3	1	33	
2020	Applications	5	2	40	100
	Successful	3	2	67	
Total	Applications	16	6	38	67
	Successful	9	4	44	

ACHIEVEMENT: Female promotions applications (38%) are comparable to the proportion of female academics in CEB (37%), whereas the success rate is very high (67%). In the last two years, success rate was 100%.

To solve existing issues with SAP, such as perceived lack of transparency, the University published in 2019 guidance on SAP with improved transparency of procedures and clear outlines of the expectations of each type of role. In 2021, a new Academic Career Pathway will be implemented for promotions.

For research staff, the University has a number of programmes in place to support them with their career planning, such as the Postdoc Academy (PA) (<https://www.postdocacademy.cam.ac.uk>), Careers Service and PPD. CEB engages actively with the PA and encourages PDRAs to sign up for a mentorship scheme. PDRAs in the department can sign up for formal mentorship through the PA, but many have availed of informal mentorship within the department (**Action 15**). Besides, several CEB academics are signed up as mentors in the University-wide scheme.

ACTION 14: Identify eligible women, suggest they apply for promotion and support their applications. We aim to improve the results from the staff survey, which revealed a lack of transparency and fairness in career progression opportunities.

ACTION 15: Implement a PDRA mentorship programme at CEB from academic staff. Mentorship can make a large difference to early career researchers and, particularly for women, female role models can allow them to learn about experiences, successes, and failures. This programme will be organised by the research committee and the postdoc society.

5.1.4 Department submissions to the Research Excellence Framework (REF)

The Department is now preparing the 2021 REF Exercise. In the REF 2014, we had a single submission but in 2020 we merged with the Departments of Materials Sciences & Metallurgy and Engineering. In 2020, output selection is shared with the three departments and a moderation exercise has been put in place to ensure fair proportion across them. By default, all staff in an eligible position are being returned to the REF 2021, where we will submit 36.15 full-time equivalents (FTE). Of these, 15.2 FTE (42%) are female. This is a significant increase from the 6.0 female FTE (19%) returned in the 2014 exercise. Unfortunately, we do not have records of gender split from the Research Assessment Exercise (RAE) 2008. Although we have not reached gender equality on the REF, both female FTE (15.2 vs. 6.0) and proportion (42% vs. 19%) have increased substantially since the 2014 exercise. The increases are particularly marked for the more junior research staff grades, indicating that the Department is making good progress to attract female early career researchers and to develop their careers.

ACHIEVEMENT: Women at CEB represent 38% of the academic staff. As a result of CEB efforts to attract more women with excellent research quality, not only the number of female academics has increased at all levels (see Section 4.2.i) but, also, for REF, women constituted a much larger proportion of returned researchers in 2021 (42%) than in 2014 (19%). This is a 121% increment in 5 years.

5.3 Career development: academic staff

5.3.1 Training

Training and development requirements are discussed at appointment and then at regular intervals in appraisals (see also **Section 5.3.3**), although only ca. 50% of staff (50% F) had an appraisal in the last two years – something that required improvement (see **Action 16**, below). In the last staff survey, we received 77% of positive responses to the question “I know where to find information about training and development”. A wide variety of courses (both online and in-person) are available for all staff at the University through the PPD program, and the list of training courses for this is circulated by the department to all staff as soon as it is issued. The department actively encourages staff at all levels to undertake these courses, particularly the ‘Unconscious Bias’, ‘Prevent’ and ‘Equality & Diversity’ courses. These activities are reviewed, and new requirements identified, during appraisals.

5.3.2 Appraisal/development review

Managers of all new staff are sent information on the probation system and a template for setting probation targets within the first month. Permanent academics have a 5-year probationary period, permanent academic-related have 9 months, long-term research have 6 months, and permanent assistant staff have 3 – 6 months depending upon grade. Reminders are sent when interim or final reviews are due. Probation target templates, specific for each of academic, researcher, and support staff categories, were

introduced in 2016 and ask reviewers and reviewees to agree objectives, plus any training and support required.

Once an individual has passed probation, managers are asked to set future objectives and carry out appraisals. Despite reminders, less than 20 employees have had their appraisals recorded on the HR system in the last 2 years. Although continuous communication between staff and HR confirm that appraisals are taking place, the appraisal paperwork is not being completed and passed to HoD for sign off. In any case, in the last staff survey, we only received 44% (63% at University level) of positive answers to the question “I have the opportunity to discuss my development needs and performance regularly”, showing a clear need at CEB (**Action 16**). In part, the monitoring and recording of appraisals has been hampered by the use of the University’s online SRD system although it had been intended to reduce the administration of an appraisal system.

After an analysis by the HR advisor and HoD, the decision has been taken to tailor the process and guidance to the department’s own needs. With low levels of appraisals, as shown in the recent staff survey, we are considering the purpose and value of review meetings and designing an approach appropriate to each group of staff. This includes reverting to a paper-based process and reminders e-mailed by the Departmental HR team monthly. The form and process will highlight the importance of discussing career and general development and promotion. We are also reviewing the frequency (e.g. annual or bi-annual) and timing (e.g. same time every year so they are part of the annual cycle of work) of review.

One example of this is a new departmental scheme currently underway to implement annual appraisals for PDRAs (carried out by their supervisor), linked to the timing of the advertised increments program (**Action 17**). When they start, PDRAs will have a career development and target setting meeting, followed by an annual appraisal. PDRAs are incentivised to receive regular appraisals and to be eligible, where funding allows, for salary increments. The departmental policy now encourages PIs at the stage of grant budget development to include sufficient headroom for salary increments. This career development and appraisal scheme was co-developed with postdocs based on guidelines set out by the researcher concordat and was unanimously approved by supervisors; it is being implemented as of April 2020. This appraisal scheme is a formal mechanism for training needs to be identified. This scheme also applies to SRAs who will be discussed in the next section.

ACTION 16: Increase rates of annual appraisals for academic staff. Currently, we have very low uptake of annual appraisals, but they are identified as effective avenues for annual review, identifying issues and goal setting. For this, the Department will regularly remind line managers to conduct appraisals and send follow-ups for any not conducted.

ACTION 17: Expand tailored “staff-led” career development and appraisal scheme to make it department standard, identifying training needs of PDRAs and evaluate the opportunities offered annually. We will include training for both the person running the appraisal and the one who receives it, and the HR team will check regularly numbers and will review available courses.

5.3.3 Support given to academic staff for career progression

Appraisals of academics with the HoD include discussions around promotion opportunities. In addition to current mentors, we will create a group of senior academics in the department that will consider individuals, and women in particular, who are eligible for promotion (**Action 18**). Experienced research staff may be promoted to SRA level; CEB currently has 6 SRAs (3 F). The Syndicate (**Figure 2**) considers promotions; the criteria are a high level of competence and independent standing as researchers, but an identified funding source is needed to be available for the promotion. Successful candidates will need to have full operational responsibility for a major project or research facility. Candidates can be proposed by a member of academic staff, with a safety net provided by the HoD who also reviews annually the status of all PDRAs with more than 5 years’ experience to find any potential issues.

Mentoring for PDRAs is available through the Postdoc Academy, as well as provided by their supervisors during appraisals; the University Careers service also provides PDRAs with career advice. With the new career development and appraisal scheme, all PDRAs and SRAs (and PRAs) are entitled to at least one non-research-based meeting per year. Relevant job opportunities are included in the weekly department bulletin. The concordat signed by the University, encourages supervisors to enable PDRAs and SRAs to engage in non-research related training activities every year.

ACTION 18: Form group of senior academics to advise on promotion and career development. The central idea is that colleagues may doubt their suitability for promotion, suffering from imposter syndrome. Senior colleagues who have been through the process may be able to assuage doubts.

5.3.4 Support given to students (at any level) for academic career progression

The department runs seminars for final year undergraduate students presenting job opportunities. Besides, the department has strong industrial connections and regularly hosts seminars with speakers from industry. The Career Service provides advice for students exploring different job sectors, and they frequently run skills sessions, career events and presentations. Relevant courses are distributed periodically through email-lists and the internal CEB bulletin. Graduate students develop their presentation skills through participation in annual poster competitions and delivering seminars of their research. Students on the Sensor CDT interact with industry partners through showcases and workshops. Colleges also supplement research advice at graduate and undergraduate level. We are considering introducing a

mentoring system in the department for research students with senior PDRAs beyond their own research group (**Action 19**). We work supporting the careers of women through seminars and talks where we increase the visibility of women role models (see **Section 5.6.vii**, **Action 27** and **28** described there).

ACTION 19: Introduce a mentoring system for PhD students by PDRAs. Peer to peer learning can be very effective. Mentoring of a student by a PDRA can help the PDRA learn but the student benefits from a person's experience that is closer to their career stage. As such, the Department will develop a mentoring scheme to connect PDRAs with students expressing interest in a mentor.

5.3.5 Support offered to those applying for research grant applications

Unfortunately, we do not have records on successful grant applications – we will develop a dataset of successful applications to identify any gender balance issue. Besides, to promote grant application success, CEB will establish a committee to advise and mentor PDRAs/SRAs who wish to apply for senior grant applications such as the Royal Society University Fellowships and the Royal Academy of Engineering (**Action 20; Figure 16**). For this, we will encourage women to apply. The working group will advise on elements of the proposal such as CV, scientific idea, and ensuring excellent support letters. There is a number of courses run through the University including Training on scientific writing, grant writing and CV clinics that the department encourages (during, e.g. appraisals) staff from all levels to attend.

The department has recently started hosting a member of the Research Operations Office (ROO) one morning a week who can provide in-person advice on applications, and all staff members are encouraged to take advantage of these opportunities. As of Autumn 2020, information seminars are organised by the pre-award team from the (ROO), hosted at CEB, and directed at PDRAs and SRAs. A similar arrangement is available with Cambridge Enterprise for intellectual property development on a monthly basis. In addition, the ROO has also offered events for specific calls, such as European Research Council Starting Grants or Marie Curie Fellowships, which CEB PDRAs are encouraged to attend.

ACTION 20: Record grant success and implement a selection and mentoring scheme to attract talent, encouraging eligible women to apply to the Department and to improve the chances of being successful on senior fellowship applications. We aim to increase the number of applicants to senior fellowships by 20% in the next 3 years.



Research Fellowships at CEB

Applying for Research Fellowships

We are constantly searching for outstanding researchers who are enthusiastic about interdisciplinary projects. We are keen to support early-career researchers wishing to apply for fellowships (such as Royal Society or Research Council fellowships) that will allow them to establish their independent research career. If you are interested in applying for a research fellowship and joining the Department of Chemical Engineering & Biotechnology, please follow the instructions below for submitting an expression of interest. You will also need to check the internal deadlines in the department.

We have different routes for senior and junior fellowships. For **senior fellowships** (i.e. fellowships typically requiring at least three years of postdoctoral experience and intended to allow you to be a Principal Investigator and supervise PhD students), we will now run an internal selection panel twice a year to decide which applications we will support for submission to the sponsors. We invite prospective applicants – **those already here and those wishing to move to Cambridge** – to submit an expression of interest for the panel to consider.

The internal selection panels take place in January and July and **the deadlines for submitting an expression of interest are 30th of June and 31st of December, respectively.**

For **junior fellowships** (usually a first or second postdoctoral position), applications do not need to go to a panel. Instead, applicants should contact potential supervisors to discuss their proposal, and for a member of academic staff to agree to act as supervisor, before approving the application for submission to a sponsor.

For further information about fellowships, please contact us at research.fellowships@ceb.cam.ac.uk.

Figure 16. Snapshot of a section of the research fellowships at CEB website, clarifying the process for interested applicants.

5.5 Flexible working and managing career breaks

5.5.1 Cover and support for maternity and adoption leave: before leave

In the last staff survey, we only receive 49% positive answers to the question “I am able to strike the right balance between my work and home life”; besides, only 33% were aware of the different schemes available to carers. There is additional anecdotal evidence of communication gap from feedback received from staff and from the fact that paternity leave numbers are very small (see **Section 5.5.5**). To solve some of these issues, the Department is working to further promote University procedures for Maternity, Adoption and Paternity Leave and is working with Our Cambridge to develop its onboarding and off-boarding process. Although these policies are currently promoted by the University through its HR website, we are updating the CEB’s website to provide a Managers ‘tool kit’ with links to relevant information. This family-friendly section will be used to advertise the various policies and schemes available to parents and carers as well as to those considering having children. The Department is developing its communication of family-friendly policies and is in regular communication with line managers regarding the policies. We acknowledge that better signposting to where the information is available is required. In addition to the CEB website, we are therefore planning to promote family-friendly policies via the CEB Bulletin and on the improved CEB HR website (**Action 21**).

ACTION 21: Include a family-friendly section in CEB’s website and improve communication of return to work policies for maternity, paternity and adoption leave. Unfortunately, there has been poor take-up of returning carers scheme for academic staff from our Department. We would like to increase awareness of this and other opportunities such as flexible working.

5.5.2 Cover and support for maternity and adoption leave: during leave

Employees remain supported by their line managers whilst on leave by agreed communication on needs and work progress; line managers are encouraged to discuss how both parties would like this support to be coordinated. As part of the University, the Department follows policy and best-practice, encouraging staff to use “keeping in touch days” to stay in contact with their colleagues. For this, staff are entitled to 10 full-pay days to ensure that the employees still feel part of the Department. To reinforce this idea and to maintain the social side of working at CEB, staff are also invited (with their children) to the Department Summer and Christmas parties.

Line managers in the Department take seriously their responsibility to organise cover for those on leave. This is important to reassure the staff member that their area of work will continue as usual. A member of staff who is due to go on, or is currently taking maternity leave, is entitled to access all of the usual support networks available within the Department and University (e.g. HR Business Manager/Adviser, the Occupational Health Service and Counselling Service). Although this is a legal requirement, HR, in their role, have found that we need to provide better training for line managers to help support staff on maternity and adoption leave, improving the communication within CEB (**Action 21**, above).

5.5.3 Cover and support for maternity and adoption leave: returning to work

The Returning Carers Scheme for Researchers/Academics was established by the University in 2013. This funding has been used by CEB Researchers for research support, conference fees, additional equipment purchases and teaching buy-out – see example below from Dr Mela. This has been invaluable for giving support about returning to work, and in particular to women after maternity leave. Unfortunately, due to COVID-19, this programme is currently on hold.

Dr Ionna Mela – CEB Focus – Michaelmas 2019 Issue 28

“The Returning Carers Scheme, which provides small amounts of funding for people coming back from having taken a break for caring responsibilities of any sort. I would like to draw attention to it as I do not think it is obvious how beneficial it can be. I only applied to it because I was encouraged by an amazing woman in the Department of Pharmacology, Professor Laura Itzhaki. It wasn’t until I joined CEB that I applied to the scheme, one application out of round and one for the 13th round of applications, and I was awarded the funding both times. The first time, I got funding to cover the costs of attending the 63rd Biophysical Society Conference in Baltimore, USA. Being able to present my research at the foremost conference in my field was an invaluable opportunity after coming back from a career break. This also presented an opportunity to get in touch with collaborators and reignite an old collaborative project. This led to me applying for the second round of funding, which will help me visit Professor Hiroshi Sugiyama’s group in Kyoto, Japan, this coming November, to establish a new line of our collaborative research. I have to mention here that the support of the department with this, and especially Cara Bootman, Emma Frampton and Elena Gonzalez have been outstanding – from chasing up a lost application for me, to submitting the second application at the speed of light! I feel that those two opportunities have helped rebuild my confidence as a researcher and have significantly boosted my opportunities upon returning to work.”

Despite the existence of the Returning Carers Scheme, returning to work from e.g. maternity leave for researchers and academics, in particular, is very challenging. While going back to research grant applications, rebuilding scientific networks and paper writing is critical after a long career break, many times, teaching and administration duties at the department will require an excessive amount of energy and time. To help here, we will launch a programme to help academics with long career breaks (i.e. > 6 months) due to maternity leave and other responsibilities. Once the academic returns, the teaching load will be absorbed by the rest of the Department colleagues during the first year (**Action 22**).

ACTION 22: Implement additional support for teaching after maternity leave. It is recognised that academic staff coming back after long maternity or paternity leave and other caring responsibilities (> 6 months) will require extra effort or time to get updated on research activities such as grants applications and paper writing. Academic staff returning from maternity and adoption leave (as well as paternity) will obtain a free-teaching gap year to allow them to get back into research activities.

CEB supports a phased return to settle children into nursery/childcare. In particular, it supports arrangements for practical issues such as breastfeeding (e.g. fridge to store milk, quiet space to express), flexible working, parking available for those with caring responsibilities or time to go to on-site nursery to feed a baby. This is done through continuous discussions with the line manager to evaluate and cover staff needs when they return to work. Since October 2019, employees are also permitted to take 5 working days' paid leave (pro-rated for part-time employees) in any rolling 12-month period to deal with emergencies involving dependants. Although these initiatives are important, we have identified – as described in Section 5.5.1 – a need to better explain and promote these schemes to eligible staff (**Action 21**).

5.5.4 Maternity return rate

Between 2016 and July 2020, 7 members of staff (Grade 11, 1; Grade 7, 3; Grade 5, 1; Grade 1, 2) took maternity leave. The two employees in grade 1 positions left 2-3 months after the end of maternity leave; this was cited as due to the cost of childcare and difficulty of arranging childcare in Cambridge. All the other employees returned to the workplace

5.5.5 Paternity, shared parental, adoption, and parental leave uptake

Between 2016 and July 2020, 3 members of assistant staff and 2 members of research staff have taken paternity leave. The Department relies on line managers informing HR about those taking paternity leave. To promote the schemes available, we are disseminating them through different channels, as discussed above (**Section 2.1**). Besides, to improve shared parental leave, the Department supports flexible working.

5.5.6 Flexible working

Department follows University guidance on flexible working applications and, in the reporting period, four members of staff (Grade 7, 1; Grade 6, 2; Grade 4, 1) received formal arrangements being granted. In our latest staff survey, we received 100% of positive responses to the question "I have made a formal request to work flexibly and I am satisfied with the outcome" and 79% positive responses to "I have a choice in deciding how I do my work" (see **Figure 4**, above). Flexible working is often a change in the working pattern and not just a reduction in hours e.g. one member of professional support staff has re-arranged her working hours to be able to take her child to swimming lessons one morning a week (staff member at Grade 5),

another has reduced her hours to fit in with childcare (staff member at Grade 7). In the reporting period, one Research Associate reduced their hours to 50% to share childcare with their partner.

CEB is flexible around School hours where possible to ensure parents can drop off children. Besides, the Department enables staff to undertake flexible working on an informal basis. Inevitably with an informal scheme, data is not readily available. However, it is believed that at least 20% of all staff – mostly from academics and research staff – are benefiting from an agreed informal pattern of flexible working. Staff have taken up flexible working informally instead of the more classic 9 am to 5 pm for a variety of reasons, including childcare, exercising, study and volunteering. Indeed, Department meetings and training workshops are scheduled in core hours (10 am–4 pm) to enable most staff to attend.

Increasingly, staff can work at home when required and the Department is supportive of using teleconference calls to enable staff to participate remotely in meetings. The COVID-19 pandemic has required all staff who were able to work from home whilst the Department was closed; this is likely to lead to future positive changes within the Department and the way it responds to home working and flexible working requests. Besides, we made more emphasis on flexible working for those with homeschooling responsibilities. Full details of impact of COVID-19 on our Department and different initiatives to improve the organisation are described in **Section 5.6.i**.

5.5.7 Transition from part-time back to full-time work after career breaks

If funding is available and there is a need, the Department is supportive of members of staff increasing their hours from part-time to full time. In the reporting period, one member of assistant staff (HR Administrator) has gradually increased her hours from 18.25 to 24.5 hours per week as her children started school and childcare was less of an issue.

5.6 Organisation and culture

(i) Culture

We have been working hard over the past few years to ensure that the atmosphere in the department's gender equality, diversity and inclusivity are considered across all aspects of for staff at all levels, students and visitors. At the end of 2017, we launched Diversity@CEB, as a platform to help understand, encourage and celebrate diversity within the Department. These are bi-annual events that involve brief presentations followed by a Q&A session and an informal open-forum discussion, inviting attendees to share their own views and challenge preconceived ideas and aiming to use them to catalyse a positive change between students and academic and assistant staff. Some examples on equality and diversity, include lectures on trans awareness or the celebration of the International Women's Day to celebrate the social, economic, cultural and political achievements of women (**Figure 17**).



Figure 17. International Women's Day celebrated at CEB.

The largest staff community within CEB is postdoctoral researchers, and the Postdoc Committee has played a key role over the past few years in advocating for this staff group. They run a range of activities to increase development and promotion opportunities for this group of staff at key transition points, such as the CEB Postdocs Lunchtime Seminar Series, with sessions to offer advice for fellowship and lectureship applications. The postdoc committee give also continuous feedback and suggestions to the HoD about how to improve the community. Looking at the staff survey, the postdoc community in the Department have reported more positive opinions on their standing and outlook for the future.

At CEB there is a vibrant social scene, which enables staff at all levels and types to mix and fosters a positive work atmosphere. Activities include daily break times in the tearoom and Friday free cake where all staff members can come together to interact and an annual Christmas party. Another activity we are particularly proud of is the annual CEB research conference, which showcases the work done in our department, spanning from fundamental concept ideas to application. All members of the Department are invited to attend, which provides an opportunity for staff to learn about the key work taking place at CEB, exchange of ideas, build new collaborations and get together outside of the usual meeting places. In addition to talks, there is also a poster session a buffet dinner and a drinks reception the first day, so that people have the chance to socialise. By creating a very open and welcoming culture, we want to make our Department highly attractive for new applicants – including women – in our way to improve gender equality.

During the enforced COVID-19 lockdown, the department made tremendous efforts to reach out to our students and staff. Following an initial discussion in mid-March, a working group of 7 people (5 academics – 3M and 2 F, and 2 support staff – 1 F, 1 M) was set up to consider how to reach out during lockdown as inclusively as possible. A variety of actions were set in place involving many different groups at CEB. A major activity was the setting up of a daily virtual coffee hour (CEB@11 – logo below) hosted by a different person every day, from different sectors of the department. Sessions ranged from informal chats with staff/students chatting together, a desert island discs style interview with staff members featuring a new person every week (60% of interviewees were women, in our efforts to increase the visibility of women role models), quizzes and crosswords. More formal information sessions were held on Fridays where the Head of Department and members of our Strategic Management Board gave updates on working from home advice. We also had presentations from some of our academics involved in Covid-19 research on their projects, with half of these presented by women. It was heartening to note that presenters and participants were often joined by their families (and pets) online. Since research work has started up again, we have held 'live from the lab' sessions on a Friday, with researchers who have returned to the laboratories giving updates on how they're finding the new working practices, how people are feeling and also sharing their research projects with us.



Besides CEB@11, other activities were organised including a weekly film club, a student-run quiz and open mic night and a book club. These activities have served to solidify ties amongst our community, particularly across different sectors and categories of staff, with support staff, students and research staff engaging together. A PhD student who organised a weekly online yoga session for the department during the lockdown was recently recognised with a commendation for her contribution in the outstanding contribution to teaching awards run by the University

Overall, feedback from the recent staff surveys showed an improvement when we moved the department but, unfortunately, it dropped back in many answers (see **Figure 3**, above). Looking at the different populations, women were slightly more positive than men. The headline findings were that staff are proud to work for the Department and University. One area that the Department scored particularly well in is that staff, both male and female, feel they have a high degree of autonomy and independence in how they do their work.

(ii) HR policies

The Athena SWAN committee monitors issues of equality and dignity at work, while the broader application of HR policies is monitored by the HR Advisor, who also advises management staff of their responsibilities and best practice. Since 2017, the Department implemented the Wellbeing Advocates scheme from the University, with 3 (1F) trained contacts. The Advocates offer friendly and approachable guidance and support about wellbeing issues, including mental or physical health and dignity at work concerns, to all the members of the Department, from students to staff, aiming to facilitate the practice of our HR policies and values.

An older staff survey (2015) brought to light one issue regarding culture in this area, where a high proportion of staff (46%) reported that they were not aware of the procedures for reporting bullying, harassment and sexual misconduct. The Department started tackling this head-on, using the *Breaking the Silence* campaign from the University as a proactive approach to solving issues relating to harassment and sexual harassment and promoting a zero-tolerance culture. At CEB, we organised a series of meetings with students and postdocs to find potential issues, we included key information in our website (e.g. *Where can I get advice or support?*) and included flyers around (e.g. toilets, hall) to maximise visibility. In comparison, a recent staff survey (2019) has increased the positive response up to 91% (93% F). This is an important achievement, still, according to the recent survey, a number of staff reported that they have experienced (32%) or witnessed (28%) bullying behaviour, harassment or sexual misconduct. In the same line, only 36% of staff members expected the University to take appropriate action if they have an issue with being treated fairly in the workplace. To solve this problem, we will increase the awareness of support channels for staff and students affected (**Action 23**) and we will continue insisting in the *Breaking the Silence* campaign.

"I am determined that no member of this Department, student, postdoc, support staff, visitor, or academic, should suffer any form of harassment, so please participate in the campaign to understand what constitutes harassment, recognise it and eliminate it from our community."

Prof. Lisa Hall, previous HoD

ACHIEVEMENT: A recent staff survey (2019) has increased the positive response to Breaking the Silence campaign up to 91% (93% F) from 46% in 2015.

ACTION 23: Increase awareness of support channels already available within the University and Department for staff affected by bullying or harassment. More broadly, we would like to promote the University's relaunched Dignity@Work scheme that addresses these concerns. We will hold short sessions, highlighting Dignity@Work for managers and staff both as separate sessions and at the combined Staff Committee to maximise attendance.

(iii) Representation of men and women on committees

Table 6 shows the different committees at CEB and the women representation. In most cases, the proportions are in line with the number of academic staff in the Department, and so we struggle to balance our need for female representation with our desire not to overburden female academics (i.e. the Women Tax). This is an endemic challenge due to the low number of senior females and slow turnover of academic positions. In some cases, higher female representation comes from women from the PSS, where there is a greater proportion of female staff.

As of July 2020, in the 6 main Department Committees, the chairs are 3 male and 4 female. In most cases, when a vacancy arises on a committee, a potential new member is identified and invited to join by the chair of the committee. All committee chairs are expected to consider men:women balance when making changes to membership and this is discussed with HR or the HoD – the ratio keeps the proportion of women at CEB (**Table 6**). We keep continuous reviews of committee membership of individuals to ensure that no-one is overburdened.

The Strategic Management Board is the main decision-making committee in the Department and is predominantly made up of senior academic staff. Representation on this committee is 29% and has been showing similar values in the past. On the other hand, the newest committee is the Athena SWAN committee, which is well balanced in terms of sex (5F, 5M), staff type and nationalities and has had a female chair within the past two years. As the primary driver for positive change relating to equality and diversity, it is important that this committee continues to set a good example of balanced representation. This committee is unique in the Department in having a relatively high turnover so as to enable a wide range of staff to participate and gain an understanding of these issues.

Table 6. Main committees and female representation.

Committee	Membership	Male	Female	Female %
Strategic Management Board (SMB)	Academic	3	2	40
	Academic related	2	1	33
University Teaching Officers (UTO)	Academic/Research	19	11	37
	Academic related	3	0	0
Research	Academic	7	4	42
Athena SWAN	Academic/Research	3	2	40
	Academic related	2	2	50
	Student	0	1	100
Safety, Health and Environment	Academic/Research	9	3	25
	Academic related	3	2	40
	Support	3	2	40
	Student	1		0
CEB Syndicate	Academic	12	4	25
	Academic related	1	2	67

(iv) Participation on influential external committees

We have a number of women on influential committees within the University and external bodies. Until September 2020, Prof. Lisa Hall was the HoD, sitting on the Council of the School of Technology, which is responsible for strategic decisions, including funding, across all Departments within the SoT. Prof. Lynn Gladden is a particularly good example of excellent research and leadership and a role model; she has been HoD and Pro-Vice-Chancellor for Research of the University and is now Head of the EPSRC. Prof. Sabine Bahn was a Gender Equality Champion for the SoT. Prof. Roisin Owens is co-director of the centre for doctoral training on sensor technology and a member of the SoT forum on Equality and Diversity. Since October 2020, she is deputy head of the department. Dr Sarah Rough has served on the Degree Committee of the Faculty of Engineering for a number of years. Thus, female academic staff in the Department are occupying top positions and serve as role models to aspiring female students.

It is the responsibility of line managers to encourage staff to take on additional responsibilities where it is beneficial, such as membership of external committees, and this is recognised through appraisal. Where staff undertake significant roles of this kind, this is recognised and considered when allocating work within the Department.

(v) Workload model

The teaching and administrative duties within the Department are organised by the HoD and the Deputy HoD (Teaching). The Department does not have a formal workload algorithm but expects all academic members of staff to contribute to teaching. A document summarising teaching and administrative responsibilities is circulated among academic staff and is discussed annually at the UTOC. Although there is no workload model, a priority is to train all senior staff to be cognisant of essential HR duties and support for carers. In the last staff survey, we got only 42% of positive responses to the question “I am supported in managing any stress experienced in my role, so as not to impact on my work or wellbeing”. Although this could be affected of the recent changes in CEB and our move to West Cambridge, we only got 49% of positive responses to the question “I am able to strike the right balance between my work and home life”. From this data, it is clear we need to make further efforts in creating a better balance. The SMB and HR will undertake a fine-grained analysis of role allocation by gender to identify sites of potential imbalance and gender (**Action 24**).

ACTION 24: SMB and HR will undertake a fine-grained analysis of role allocation by gender to identify sites of potential imbalance and gender. We will monitor the number of women in SMB and encourage female members of staff to apply next time a Chair position is vacant in a committee, without overburdening individual female academics.

(vi) Timing of departmental meetings and social gatherings

Normal working hours are different in each research group. As described above, support staff can opt into a flexitime scheme, which allows them to start between 8 am and 9.30 am and finish between 4.30 pm and 6 pm. Meetings and events take place between 10 am and 4 pm, weekdays, so that those with caring responsibilities or part-time staff can attend. Seminars, which many staff choose to attend, are also scheduled nearer the middle of the day. The Department is committed to ensuring all essential activities take place during core hours and is accommodating if individuals cannot attend. Every day, staff can come together socially at a scheduled teatime in the morning and afternoon in the Department tearoom. Since COVID-19, virtual meetings are also recorded, allowing staff to watch them when they are unable to attend (maternity leave, leaving to pick up family, etc.). We want to keep this idea in the future by investing in capture technology in lecture theatres, allowing seminars to be viewed by any member not present (**Action 25**).

ACTION 25: Invest in lecture capture technology in lecture theatres, allowing seminars to be viewed by staff unable to attend (maternity leave, leaving to pick up family, etc.). This way, we aim to stream > 50% of CEB seminars, so people with caring responsibilities can lose out on opportunities to expand their knowledge base or understand colleagues' work.

(vii) Visibility of role models

We pay special attention to highlighting success stories of women from our department, contributing to accelerating women representation (**Figure 18**). There are several seminar series which run throughout the year. The 2-day CEB research conference is an annual event and although speakers are selected with positive-ratio management, more could be done to proactively encourage females to participate. Although all of those involved are aware of the need to ensure gender balance and encourage female participation, the number of invited women speakers has been of ca. 35%. The Department will endeavour to achieve greater parity between women and men in the future and therefore we are committed to review and improve gender balance for event organisers and of speakers at all seminar series held in the Department (**Action 26**).









	<p>Professor Sabine Bahn highlighted in Movers and Shakers in BioBusiness report</p> <p><i>10 November 2020</i></p> <p>Released today by BioBeat, the seventh annual Movers and Shakers in BioBusiness report highlights 30 examples of resourceful leaders in the UK bioscience sector. For the first time, this year's Movers and Shakers also features nearly 200 alumni from previous reports, including our Professor of Neurotechnology, Sabine Bahn.</p> <p>Read more ></p>		<p>Dr Jenny Molloy named Fellow of the World Economic Forum's Global Future Council on Synthetic Biology</p> <p><i>12 October 2020</i></p> <p>Shuttleworth Fellow Jenny Molloy, who leads our Open Bioeconomy Lab, was appointed in the recent call and will sit on the Global Future Council on Synthetic Biology for the next year.</p> <p>Read more ></p>
	<p>CEB entrepreneur shines at climate tech competition with air pollution sensor network</p> <p>As one of three winners of the Women4Climate Tech Challenge, Lorena Gordillo-Dagallier secures funding and support to pilot her project in Stockholm and Lisbon</p> <p>Read more ></p>		<p>Katherine Smart makes brewing history as the first woman to be appointed as Renter Warden of the Worshipful Company of Brewers</p> <p><i>27 August 2020</i></p> <p>Our Lecturer in Brewing and Distilling Science and Diageo's expert brewer, Katherine Smart, is the first woman to be appointed Renter Warden of one of the oldest of the City guilds or livery companies.</p> <p>Read more ></p>
	<p>Shaping the world</p> <p>CEB researchers Beth Tennyson and Jana Weber named in WES Top 50 engineers awards</p> <p>Read more ></p>		<p>Dr Ioanna Mela awarded funding from the National Biofilm Innovation Centre</p> <p><i>4 June 2020</i></p> <p>Dr Ioanna Mela, a Postdoctoral Research Associate working in the Laser Analytics Group with Prof Clemens Kaminski, has been awarded funding from the National Biofilm Innovation Centre, 3rd Proof of Concept Call, to investigate the potential of DNA nanostructures against oral biofilms.</p> <p>Read more ></p>
	<p>Each for Equal</p> <p>Our scientists share their thoughts on careers in engineering and biotechnology for International Women's Day</p> <p>Read more ></p>		<p>Professor Gladden appointed Dame Commander of the Order of the British Empire</p> <p><i>3 January 2020</i></p> <p>Former HoD, Professor Lynn Gladden, Executive Chair of EPSRC, named Dame Commander of the British Empire in the 2020 Queen's Birthday Honours list for her services to Academic and Industrial Research in Chemical Engineering.</p> <p>Read more ></p>

Figure 18. Screenshots of women successful stories at the CEB website.

The Department's online presence includes images and narrative highlighting female academic staff and students. For example, on the news section of the webpage, there are 51% of articles featuring women success such as awards (56% for women), large grants (42%) and important research achievements (42%). Incorporating gender balance on the CEB website was a deliberate action designed to raise the profile of women in our Department and act as role models for potential new staff and students. We have carefully reviewed the materials distributed in the Department in order to showcase the diversity in CEB. We are thrilled to have excellent female role models at various levels, such as Prof. Lynn Gladden, current executive chair of the EPSRC, and Profs. Sabine Bahn, Lisa Hall and Róisín Owens, excellent and successful researchers and leaders. We are proud of being able to retain exceptional undergraduate students as PhD students. For example, Clare Rees, one of our best students academically, with the highest number of top grades in the country. Besides, 4 out of 8 distinctions in the Sensor CDT PhD graduate programme were awarded to female students. Our PhD student, Lorena Dagallier, won the world-wide women4climate technology competition, an extraordinary achievement against stiff international competition, and her work is being used by city administrations in Buenos Aires, Stockholm and Lisbon to monitor air pollution. These successes are a result of a supportive environment at CEB, that not only values diversity but that creates opportunities that can only be achieved through harnessing cultural and intellectual diversity, a position that is significantly enhanced through our new connection with the Centre of Global Equality, CGE, led by Dr Lara Allen, for which CEB acts as its worldwide inclusive innovation hub (**Action 27**).

ACTION 26: Improve gender balance for event organisers and of speakers at all seminar series held in the Department. We will make gender ratios of all seminar series known to organisers and highlight those series that remain male-biased. Organisers will be encouraged to target female speakers for invitation, and female academic staff in the Department specifically encouraged to speak. We aim to have 50% female speakers across all seminar series in the Department.

ACTION 27: Continue increasing the visibility of female role models within the Department to staff members but also externally with the aim of attracting more UG women applicants. We have recognised the benefit of our new social media pages in promoting recognition of our staff and especially in increasing visibility of female role models.



Figure 19. Students at the poster session of the CEB Research Conference 2019. "All contributions were of very high quality and the new format, in which we mixed talks by academics, post-docs and PhD students, appears to have worked very well. In order to pull off this event, we asked many people to contribute their time, experience and enthusiasm. It was only possible because everyone the organisers asked for help did help without any hesitation, from catering and facilities teams, to prize judges." Prof. Alexei Lapkin, organiser of the conference.

(viii) Outreach activities

The Department has demonstrated a commitment to the local and wider community through outreach. Engagement is built into the fabric of the Department. Our staff at all levels participate in a variety of outreach programmes. This includes regular open days to school students to encourage them to apply to study our U/G course or the respond to requests from schools for outreach activities and visits as well as speaking on the radio. The Cambridge Colleges also organise outreach events for potential U/Gs that include shadowing and access schemes, and many students within the Department have helped with these.

The most important outreach activity is the Cambridge Science Festival, a large-scale, week-long annual event run by the University and drawing children and adults from all backgrounds. The Department has organised several events in the past. As a probe of our commitment to improving our outreach activities, this year the Department opened the doors to allow the public to explore our research, meet our scientists and take part in hands-on demos and experiments. There were talks (2F, 2M) organised, whereas a "Science speed-dating" activity gave people the chance to talk in lay terms to our researchers, asking burning science questions and finding out more about careers and opportunities. Also, a dedicated kids' zone, with a "molecular" ball pit and sensing puzzle mat, aimed to expand our family-friendly atmosphere. All this was led by Dr Ljiljana Fruk, recently promoted to Reader, and over 750 people visited the department on that day giving very positive feedback ("the value for us as a family is that we've brought our children here; I wanted them to see that science is normal, this is where you've got to go to learn and make something yourself (...) I think with the synergy of everyone that's working here together, new good things are going to come out" Mike Ayala, visiting CEB with his wife and children).

The Department is committed to supporting its staff to engage in outreach activities and is looking to improve the way it acknowledges outreach. Outreach can be formally recognised in the 'general contribution' section of the University's academic promotion schemes and through appraisal (**Action 26**).

ACTION 28: Increase the recognition of outreach work done in the department or by its members. Since many staff spend a great deal of time involved in outreach work. We aim to increase the visibility of this public engagement work to improve recognition of individuals' efforts, we will incorporate questions about outreach work into the administrative workload survey and make the results public.



Figure 19. Science Festival 2018 (left) and 2019 (right), showing the participation of students and staff at all levels while keeping a gender balance. "It's challenging because you have to talk about your work in a lay language but I also feel that science plays such an important role in shaping the life of the public and it's very important that we talk about it more" Dr Ljiljana Fruk.

[SECTION: 5903 WORDS]

6. FURTHER INFORMATION

N/A

7. ACTION PLAN

See below.

Action	Page	Objective (What)	Rationale (Why)	Outputs and milestones (How)	Timeframe (When)	Person responsible (Who)	Success criteria and outcome
1	13	Re-start the Staff Committee to improve the internal communication of decisions at the Department.	The recent staff survey showed that the internal communication in the Department was not working.	Hold term meetings for the whole Department on vision, challenges, opportunities and new changes being implemented.	From November 2020.	HR and HoD.	60% of the Department attending the Staff Committee meetings. A 5% satisfaction increase in the University staff survey with respect to questions of internal communication.
2	13	Improve transparency of Departmental committees, including making minutes of meetings available.	We are also seeking more communication, transparency and awareness throughout the Department.	Minutes of all the committee meetings to be included in CEB's intranet to understand how decisions are taken.	High priority, From December 2020.	HR and DA.	A minimum of 90% of the minutes for each committee are online 10 days after the meetings.
3	14	Include UG representation in the Athena SWAN working group	We need representation and participation at the ASWG at all levels – so far, we do not have UG members.	UG, through the staff-student consultative committee, will be invited to have representation in the ASWG.	From January 2021	Academic Officer, Teaching and Examinations Co-ordinator	A minimum of 1 representative from UG to be a member in the ASWG.
4	18	Increase senior departmental participation in and buy-in to the Athena SWAN Charter, extending a series of E&D guest lectures to spread the Athena SWAN ethos.	The recent staff survey showed that some staff are unaware of the steps the Department has been taking to tackle equality and diversity issues.	Hold an annual update meeting for the whole Department on progress against the Athena SWAN action plan and other initiatives.	First meeting, July 2021.	E&D Committee and HoD.	60% of the Department attending the update meeting. A 5% satisfaction increase in the University staff survey with respect to questions of equality and diversity.

Action	Page	Objective (What)	Rationale (Why)	Outputs and milestones (How)	Timeframe (When)	Person responsible (Who)	Success criteria and outcome
5	20	Assess annual course applications, offers, acceptance rates, and degree attainment by gender.	We want to track any gender bias during the admission of our UG and PG students.	Prepare an annual report summarising the number of applications, offers and acceptances, as well as final marks by gender.	From December 2020.	Academic Officer, Teaching and Examinations Co-ordinator	Annual dataset for continuous analysis.
6	21	We will seek advice and work towards ways of addressing attainment gap at CEB.	With more male than female students getting 1 st class grades, we will review gender differentials by attainment on an annual basis to solve this issue	We will seek advice on this matter and we will work towards ways to address this actively, using the pilot scheme of the University.	From December 2020.	Chair of Examiners and Deputy Head of Teaching.	Reduce the attainment gap by 20% p.a. until we reach similar values for men and women.
7	24	Raise awareness among female undergraduate students of opportunities for postgraduate studies and beyond.	Although the proportion of female postgraduates is higher than at undergraduate level, there is still a gender gap that needs to be reduced.	Initiate an annual discussion for undergraduates highlighting progression opportunities to postgraduate study, led by female role models within the Department.	Implement a session in the academic year 2021/22 and continue annually.	Academic Officer, Teaching and Examinations Co-ordinator.	Raise the proportion of female undergraduates going on to postgraduate courses by 5% by 2023. Monitor rates via exit survey.
8	26	Ensure all Department members on selection committees have undertaken training on best practice in recruitment.	We want to ensure that we are mitigating any unconscious bias on selection committees.	Implement and publicise a change in departmental policy such that participation in recruitment training is required for serving on any recruitment panel. Current policy requires just one member on each committee to be trained.	From July 2021.	HR advisor and HoD.	A minimum of 80% of all selection panel members will have been trained on best practice in recruitment.

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9	26	Promote and actively engage with the University's Race Equality Action Plan and the intersection between gender and ethnicity, translating action onto a local level.	The department is very concerned with the fact that we have no BAME academic staff, although the number on the research level is 32%	Engage with the University's Race Equality Action Plan and the intersection between gender and ethnicity.	From July 2021	HR advisor	Promote the University BAME Staff Network for race equality. Get at least 10% of staff joining the network.
10	28	Gather data on staff leaving the Department and act on any gender biases detected in the data.	Gain an understanding of why people leave the Department. Gather data on future career destinations to monitor any gender or other biases.	We will implement a departmental exit survey for staff leaving and monitor the results.	2022-50%, 2023-60%	HR advisor and DA.	At least 50% of staff leavers will complete an exit survey. Build a dataset regarding future careers and satisfaction of staff.
11	29	Improve the number of BAME and BAME women applicants for academic positions.	BAME groups are underrepresented in our Department. We recognise the need to take action on minority interests beyond gender.	Introduce text to the job advert that encourages BAME applicants to apply for staff positions. We will seek improved reporting by the central University on ethnicity and other recorded data.	Job advert text introduced by July 2021.	HR and DA.	Increase BAME applicants for staff positions by at least 5% in the next three years.

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12	29	Identify and encourage the best female applicants for senior academic staff vacancies.	Although the number of female lecturers has increased in the last years, we should continue looking for strong female applicants.	Establish a search committee of at least three members for all academic vacancies, identify and approach 5-7 strong female candidates for each vacancy. The committee will also be responsible for consulting widely through the Department in order to identify potential candidates and bring the vacancy to the attention of all staff.	High priority January 2021 – 2023.	HoD.	Increase the proportion of female applicants for senior academic position at least 10% in the next three vacancies. Appoint females to at least one third of senior academic appointments next five years.
13	30	Ensure that all the staff members of the Department do the ED&I training.	While safety training during induction has received a lot of emphases, ED&I policies on training have been more relaxed. We want to highlight our compromise to improve CEB culture.	The Department will search for training initiatives to provide training in a range of management subjects.	From July 2021.	HR and DA.	100% of staff will have received ED&I training in this or other formats. Increase workplace recognition feedback results by 10% in the University staff survey by all staff.
14	32	Identify eligible women, suggest they apply for promotion and support their applications.	The staff survey revealed a lack of transparency and fairness in career progression opportunities.	Female academic staff will be encouraged to apply for promotion by their appraiser and HoD. HoD will meet with all senior research fellows at year 3 of fellowships to discuss career progression opportunities within and outside the Department.	From Jan 2021.	HoD.	Increase career progression awareness and trust in the process among academic staff by 10% in the next University staff survey.

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15	32	Implement a PDRA mentorship programme at CEB.	Mentorship can make a large difference to early career researchers. Role models can share their experience, their successes and failures.	The Department will develop a mentoring scheme to connect academics with PDRA's expressing interest in a mentor.	From Oct 2021.	Research Committee, Postdoc society in department	Increase career progression awareness among all staff by 10% in the next University staff survey.
16	34	Increase rates of annual appraisals for all academic staff.	Currently, we have very low uptake of annual appraisals, but they are identified as effective avenues for annual review, identifying issues and goal setting.	Department will regularly remind line managers to conduct appraisals and send follow-ups for any not conducted.	Early 2021.	HR.	>65% of academic staff having annual appraisals.
17	35	Expand tailored "staff-led" career development and appraisal scheme to make it department standard, identifying training needs of PDRA's and evaluate the opportunities offered annually. Improve postgraduate student awareness of transferable skills and career planning.	Following discussion at the Department Graduate Committee, it was proposed that we do more to support the development of transferable skills.	We will introduce a "skills check" and "training plan" to the existing review points at the beginning of students' graduate studies, and at the three-year point for PhD students. This will take the form of a review and discussion between a student and their supervisor and/or advisors.	From Oct 2020.	Grad Ed committee	>80% PDRA's will have at least one appraisal annually.
18	35	Form group of senior academics to advise on promotion and career development.	Colleagues may doubt their suitability for promotion, suffering from imposter syndrome. Senior colleagues who have been through the process may be able to assuage doubts.	The department will form a committee of senior academics who will actively reach out to more junior colleagues to give advice	Early 2022	SMB	Junior academics receive support for progressing their careers.

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19	36	Introduce a mentoring system for PhD students by PDRAs.	Peer to peer learning can be very effective. Mentoring of a student by a PDRA can help the PDRA learn but the student benefits from a person's experience that is closer to their career stage.	The Department will develop a mentoring scheme to connect PDRAs with students expressing interest in a mentor.	From Oct 2021.	Postdoc society in the department.	Increase career progression awareness among students by 10%.
20	36	Record grant success and implement a selection and mentoring scheme to attract talented researchers to the Department and improve chances of being successful in senior fellowship applications.	By opening up to the outside, we present CEB as a friendly and exciting place to work encouraging applicants that might otherwise not apply.	Increase in numbers of applicants to fellowship applications.	From October 2020.	Research Committee.	Increase number of applicants to senior fellowships by 20% in the next 3 years.
21	38	Include a family-friendly section in CEB's website and improve communication of return to work policies for maternity, paternity and adoption leave.	There has been poor take-up of returning carers scheme for academic staff from our Department. We would like to increase awareness of this and other opportunities such as flexible working.	All staff returning from maternity and adoption leave (as well as paternity) will be invited to a "return to work" meeting with HR to discuss all aspects of reintegration including the returning carers scheme.	From October 2021.	HR and Communications Manager.	At least 3/5 th of eligible Department members will make an application for funds from returning carers scheme.
22	40	Implement additional support for teaching after maternity leave.	It is recognised that academic staff coming back after long maternity or paternity leave and other caring responsibilities (> 6 months) will require extra effort or time to get updated on research activities such as grants applications and paper writing.	Academic staff returning from maternity and adoption leave (as well as paternity) will obtain a free-teaching gap year to allow them to get back into research activities.	From October 2021.	HR and Deputy Head of Teaching.	Eligible Department members will receive support.

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23	45	Increase awareness of support channels already available within the University and Department for staff affected by bullying or harassment.	Staff survey results indicate a substantial amount of staff having witnessed or suffered bullying and harassment incidents. More broadly, we would like to continue promoting the University's relaunched Dignity@Work scheme that addresses these concerns.	We will hold short sessions highlighting Dignity@Work for managers and staff both as separate sessions and at the combined Staff Committee to maximise attendance.	High priority, From January 2020.	HR and HoD.	10% decrease in the percentage of staff reporting suffering bullying in the next University staff survey.
24	47	SMB and HR will undertake a fine-grained analysis of role allocation by gender to identify sites of potential imbalance and gender	There is a continuing need to improve gender balance on departmental committees without overburdening individual female academics.	Monitor the number of women in SMB and encourage female members of staff to apply next time a Chair position is vacant in a committee.	From January 2021.	HR and HoD.	Improve gender balance of committees to be equivalent to the percentage of academic females in the Department (~35%).
25	48	Invest in lecture capture technology in lecture theatres, allowing seminars to be viewed by staff unable to attend (maternity leave, leaving to pick up family, etc.).	People with caring responsibilities can lose out on opportunities to expand their knowledge base or understand colleagues' work.	Complete IT setup on lecture theatres to participate in seminars	From October 2021.	Computer Officer.	>50% of the CEB seminars are streamed online.

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26	49	Improve gender balance for event organisers and of speakers at all seminar series held in the Department.	Some seminar series run in the Department have better gender ratios than others. We aim for balanced gender ratios in all seminar series.	Make gender ratios of all seminar series known to organisers and highlight those series that remain male-biased. Organisers will be encouraged to target female speakers for invitation, and female academic staff in the Department specifically encouraged to speak.	From December 2020.	Seminar series organiser.	Seminar series organisers 50% female speakers across all seminar series in the Department.
27	49	Increase the visibility of female role models within the Department.	We have recognised the benefit of our new social media pages in promoting recognition of our staff and especially in increasing visibility of female role models.	To highlight and increase the visibility of female role models online.	From Jan 2021.	Communications Manager.	Equal gender balance of content in social media posts and website profiles. Assess website and social media traffic relating to female role models and achievements.
28	51	Increase the recognition of outreach work.	Many staff spend a great deal of time involved in outreach work. We aim to increase the visibility of this public engagement work to improve recognition of individuals' efforts.	We will incorporate questions about outreach work into the administrative workload survey and make the results public.	From July 2021.	DA and Communications Manager.	Publish data on outreach annually. Recognise outstanding outreach at the Department Annual Conference.