



Department Application
Bronze and Silver Award



ATHENA SWAN BRONZE DEPARTMENT AWARDS

Recognise that in addition to institution-wide policies, the department is working to promote gender equality and to identify and address challenges particular to the department and discipline.

ATHENA SWAN SILVER DEPARTMENT AWARDS

In addition to the future planning required for Bronze department recognition, Silver department awards recognise that the department has taken action in response to previously identified challenges and can demonstrate the impact of the actions implemented.

Note: Not all institutions use the term 'department'. There are many equivalent academic groupings with different names, sizes and compositions. The definition of a 'department' can be found in the Athena SWAN awards handbook.

COMPLETING THE FORM

DO NOT ATTEMPT TO COMPLETE THIS APPLICATION FORM WITHOUT READING THE ATHENA SWAN AWARDS HANDBOOK.

This form should be used for applications for Bronze and Silver department awards.

You should complete each section of the application applicable to the award level you are applying for.

Additional areas for Silver applications are highlighted throughout the form: 5.2, 5.4, 5.5(iv)

If you need to insert a landscape page in your application, please copy and paste the template page at the end of the document, as per the instructions on that page. Please do not insert any section breaks as to do so will disrupt the page numbers.

WORD COUNT

The overall word limit for applications are shown in the following table.

There are no specific word limits for the individual sections and you may distribute words over each of the sections as appropriate. At the end of every section, please state how many words you have used in that section.

We have provided the following recommendations as a guide.

Department application	Bronze	Silver
Word limit	10,500	12,000
<i>Recommended word count</i>		
1. Letter of endorsement	500	500
2. Description of the department	500	500
3. Self-assessment process	1,000	1,000
4. Picture of the department	2,000	2,000
5. Supporting and advancing women's careers	6,000	6,500
6. Case studies	n/a	1,000
7. Further information	500	500

Name of institution	University of Birmingham	
Department	School of Engineering	
Focus of department	STEMM	
Date of application	November 2019	
Award Level	Bronze	
Institution Athena SWAN award	Date: November 2014	Level: Bronze
Contact for application <small>Must be based in the department</small>	Duncan Shepherd	
Email	d.e.shepherd@bham.ac.uk	
Telephone	0121 414 4266	
Departmental website	www.birmingham.ac.uk/schools/engineering/index.aspx	

1. LETTER OF ENDORSEMENT FROM THE HEAD OF DEPARTMENT



UNIVERSITY OF
BIRMINGHAM

College of Engineering and
Physical Sciences

School of Engineering

Email: i.jefferson@bham.ac.uk

Telephone: +44 (0)121 414 47972

21st October 2019

Dear Athena SWAN

RE: School of Engineering Athena SWAN Bronze Award submission.

It is my great pleasure to submit our application for the Athena SWAN Bronze Award. Following previous unsuccessful applications for the Bronze Award, the School has considered the feedback carefully and used this to shape this application, by spending the time to really try to understand the issues and challenges faced by our female colleagues, both staff and students in the School. Aside from analysing data, we have concentrated on gaining the view of females through a staff survey, discussions at Departmental Industrial Advisory Boards, discussions at a Staff Away Day and student focus groups. In addition the Self-Assessment Team have had one-to-one discussions with many female staff and students and this has resulted in a greater understanding of issues faced by the School.

Unlike previous applications, I am confident that the School has a better understanding of the issues and we do acknowledge that some female staff and students face challenges we were not previously aware of in a male dominated environment. This includes female staff feeling isolated and female students uncomfortable in male dominated group projects. I personally believe that the School of Engineering cannot fulfil its full potential until we have made progress on improving the experience for all female staff and students. We have, as a result of further work, now developed an exciting and challenging action plan that will address the issues raised by our female staff and students. The School in particular aims to increase applications from prospective female staff and students. However, we recognise that as well as this ambitious, there is much more we can do to fully support our current female staff and students in their development and career aspirations.

As the Head of School, I will be keeping Athena SWAN, and equality, diversity and inclusivity in general, as a prominent standing item on all our committees. This is essential to ensure that we maintain an explicit focus on the importance of promoting gender equality across all branches of engineering. I recognise the benefits of an

increasingly diverse staff and student population and in the context of the School's strategy I am committed to the principles of the Athena SWAN Charter.

I sincerely hope that the panel will recognise our enthusiasm throughout our application. As Head of School, I am personally very happy to commit myself (and my successors) to successfully implementing our action plan and to ensure that Athena SWAN's values are embedded throughout our School and all that it does.

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

Yours faithfully,



Professor Ian Jefferson

Professor of Geotechnical Engineering
Interim Head of School – School of Engineering

Words: 454

2. DESCRIPTION OF THE DEPARTMENT

Recommended word count: Bronze: 500 words | Silver: 500 words

The School of Engineering (SoE) is one of seven Schools in the College of Engineering and Physical Sciences (CoEPS) at the University of Birmingham (UoB). The School was formed on 1 January 2016, bringing together the disciplines of Civil Engineering, Electrical, Electronic & Systems Engineering and Mechanical Engineering to form a critical mass in Engineering. Each discipline maintains an identity through Departments.

The School was created to foster the development of a contemporary and more flexible educational model that builds upon essential engineering fundamentals to give students a broader engineering education to enable them to produce engineering solutions to address societal challenges.

All three disciplines are concerned with using scientific and technical knowledge to imagine, design, create, make, operate, maintain and dismantle complex structures, systems and processes that support human endeavour. They are at the heart of solving many of the internationally agreed global societal challenges that require closer integration of core disciplines.

Members of staff from the SoE carry out collaborative research with colleagues from many other schools and organisations within the University and elsewhere. The School is organised into four Research Centres:

- Communication and Sensing;
- Power and Infrastructure;
- Railways and Vehicle Technology;
- Manufacturing.

The strategic aims of the School have four pillars:

- **Education.** We will develop and support the next generation of engineers to lead the response to the key societal challenges of the 21st century.
- **Research.** We will produce world-leading research that is impactful for industry and wider society and which addresses the United Nations Sustainable Development Goals.
- **Influence.** We will seek to nurture our relationships with the public and private sector in order to influence decision-making, and help shape the future infrastructure of the UK and wider world.
- **Resources.** We will foster a positive working environment for our staff that seeks to cultivate their skills and expertise to help them realise their potential.

Based on data on 1 June 2019, the School has 243 staff across academic and professional services, with 173 academic and academic related staff (15% female) and 70 professional services staff (50% female). There are 1192 undergraduate students (15.4% female), 687 postgraduate taught students (21.7% female) and 306 postgraduate research students (20.3% female).

The key management roles are Head of School, Heads of Department, Head of Education, Director of Research and Heads of Research Centre. They are supported by a School Operations Manager (Figure 1). We currently have an Interim Head of School until a new Head of School appointment is made. Within the Interim structure there is one female colleague on the Senior Management Team.

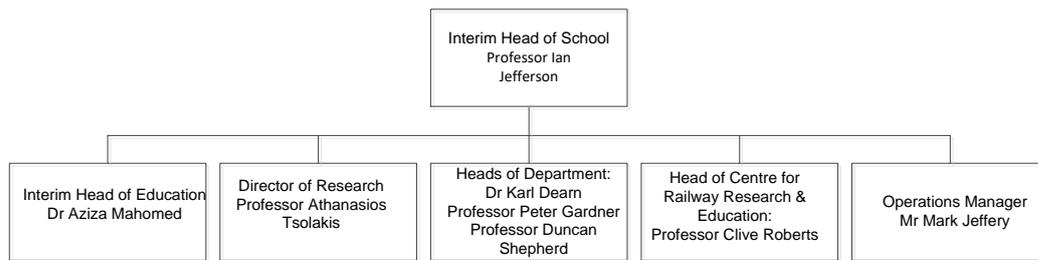


Figure 1. School structure

Our Equality, Diversity and Inclusion strategy is focused on creating an equitable and supportive environment in which people want to work and contribute, with emphasis on encouraging an ambitious, supported ethos for women in engineering that we engage with, from school/college students via outreach through to senior members of staff.

Words: 477

3. THE SELF-ASSESSMENT PROCESS

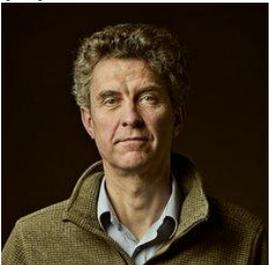
(i) a description of the self-assessment team

The Self Assessment Team (SAT) includes a mix of academic and professional services staff and student representatives from across the School. Mrs Becca Rice, Professor Duncan Shepherd, Dr Lauren Thomas-Seale and Professor Miles Tight were appointed by the Head of School to lead the SAT. All other members of the SAT were voluntary following a request for members. There are two Heads of Department on the SAT and this ensures that there has been a direct link with the Senior Management Team during the self-assessment process.

SAT Member (M/F/NB)	Role on SAT	Work/life experiences/balance
<p>Noor Aljafari (F)</p>  <p>PhD student</p>	<p>Represent the postgraduate researchers from the School of Engineering.</p>	<p>Full time PhD student.</p>
<p>Dr Carl Anthony (M)</p>  <p>Interim Deputy Head of Education</p>	<p>Advising on application.</p>	<p>Has previously benefitted from the School's flexible working culture to balance work with childcare requirements.</p>

<p>Mechanical Engineering, and Industrial Liaison Tutor Mechanical Engineering</p>		
<p>Claire Bonnet (F)</p>  <p>Equality, Diversity and Inclusion Project Officer</p>	<p>Advising and supporting the SoE on their Athena Swan application.</p>	
<p>Fiona Connor (F)</p> <p>Part-time MSc student</p>	<p>Advising on student issues.</p>	<p>Works full-time. Part of LGBT+ community and has an interested in promoting diversity in STEM.</p>
<p>Dr Karl Dearn</p>  <p>Head of Civil Engineering</p>	<p>Advising on application.</p>	<p>Has a son and two daughters under eight and his wife is pregnant with fourth daughter.</p>
<p>Dr Holly Foss (F)</p> 		
<p>Dr Naomi Green (F)</p>  <p>Research Fellow, Mechanical Engineering</p>	<p>Leader of the visibility and outreach initiatives.</p>	<p>Disabled and uses flexible working arrangement to manage condition and work/life balance.</p>

<p>Dr Richard Hood (M)</p> <p>Lecturer in Mechanical Engineering</p>	<p>Advising on Athena SWAN application.</p>	<p>Works full time.</p>
<p>Dr Carol Kong (F)</p>  <p>Lecturer in Mechanical Engineering</p>	<p>Advising on Athena SWAN application.</p>	<p>She supervises female UG/PG students and uses the role as an academic and mentoring opportunity.</p>
<p>Dr Aziza Mahomed (F)</p>  <p>Interim Head of Education</p>	<p>Advising on application.</p>	<p>Works full time and lives in Rugby for family reasons. Has had caring responsibilities for family members.</p>
<p>Verity Page (F)</p>  <p>Undergraduate student</p>	<p>Advising on student issues.</p>	<p>Works and volunteers at events encouraging females to pursue STEM careers. Women's Engineering Society student member.</p>
<p>Dr Andrew Quinn (M)</p>  <p>Reader</p>	<p>Advising on College and Institutional policies and actions.</p>	<p>Works full-time. Has had caring responsibilities for family members.</p>
<p>Susan Squire (F)</p> <p>UoB HR Staff Diversity Adviser & UoB Athena</p>	<p>Advising on Athena SWAN processes and issues.</p>	<p>80% FTE. Shares caring responsibilities for their 2 year old with her husband.</p>

Coordinator		
<p>Professor Duncan Shepherd (M)</p>  <p>Head of Mechanical Engineering</p>	<p>Overall leadership of the Athena SWAN submission.</p>	<p>He shares caring responsibilities for his two sons with his wife.</p>
<p>Ms Jenny Steere (F)</p>  <p>Industrial Liaison Officer</p>	<p>Advising on Professional Services.</p>	<p>Works 70% FTE. Shares childcare responsibilities for her eight year old daughter with her husband.</p>
<p>Dr Lauren Thomas-Seale (F)</p>  <p>Lecturer, Mechanical Engineering Co-Chair of of SAT and School Equality and Diversity (E&D) Committee</p>	<p>Joint Leadership of EDI committee.</p>	<p>Works 80% FTE. Went on maternity leave in 2019. Shares childcare responsibilities with her husband.</p>
<p>Professor Miles Tight (M)</p>  <p>Professor, Civil Engineering Co-Chair of School Equality and Diversity</p>	<p>Joint Leadership of EDI committee.</p>	<p>Has previously used the School's flexible working culture to balance work with childcare requirements.</p>

(E&D) Committee		
Dr Pietro Tricoli (M)  Senior Lecturer Electrical Engineering	Detailed writing on the submission.	Works full time. He shares with his wife caring responsibilities for his two sons.
Becca Rice (F)  Operations Project Officer	Advising on Professional Services issues.	Works FT. Uses School flexible working practices to balance work and home life.

(ii) [an account of the self-assessment process](#)

The SoE has had an Equality, Diversity and Inclusion (EDI) Committee since its formation in 2016. The committee meets twice a term and its long term goals are to establish an equal work and study environment for both minority and majority groups, a diverse representation of engineers and engineering support staff within the School that further impacts engineering diversity issues in society, and create an inclusive environment for all students and staff. Professor Miles Tight and Dr Lauren Thomas-Seale (co-chairs of the committee) are both members of the College Equality and Diversity Committee and ensure School activity feeds into wider College aims.

In November 2018, following previous unsuccessful applications for an Athena SWAN bronze award, the SoE took a fresh approach to engage across the School in the self-assessment process to really find out what female staff and students think and what challenges they face as females in the SoE. The main self-assessment processes were:

- reviewing staff and student data held by Human Resources;
- a staff survey that took place in March 2019 to find out what staff actually think about working in the SoE;
- discussions on EDI at the three Departmental Industrial Advisory Boards in Spring 2019 where best practice used in industry was sought;
- discussions at a Staff Away Day in January 2019 on the reality of working in the SoE, what we would like to be and what others say about us;
- student focus groups to find out what undergraduate and postgraduate students thought of EDI in the SoE.

Further information was also gathered through existing mechanisms within the School as a means of raising awareness, as well as to identify concerns and ideas. A discussion on EDI is included in our annual Performance Development Review (PDR) process for all academic staff, with comments anonymously fed back to the EDI committee for

discussion and, where appropriate, action. Departmental 'teas' provide a forum for discussion of relevant topics and an exchange of ideas. EDI is a regular item of discussion at our PGR staff student committee and Education Committee and at ad hoc meetings with wider groups of PGR students. Staff responsible for our UG and PT programmes of study discuss EDI issues with their student cohorts through staff student committees, personal tutorials and one-to-one discussions that take place between members of the EDI committee and staff and students.

Using information collected through these self-assessment processes areas of focus were identified, and a sub-set of the SAT (Dr Holly Foss, Mrs Becca Rice, Professor Duncan Shepherd, Dr Lauren Thomas-Seale, Professor Miles Tight and Dr Pietro Tricoli) formed a writing committee responsible for producing the first draft of the application and action plan. Drafts were then reviewed by the SAT and the EDI Committee to ensure a breadth of viewpoints.

The action plan was signed off by the School Senior Management Team on 14 October 2019, before submission to the UoB review panel for an internal review which signed off on 6 November 2019.

(iii) **plans for the future of the self-assessment team**

The UoB has instigated a network of Equality Champions in each academic School. Our intention is that once the Athena SWAN bid has been submitted, the SAT will continue to meet as the School EDI Committee, to ensure the School has a focus on all equality issues to avoid duplication of effort. The membership of the EDI committee will be reviewed on an annual basis. This is partly to offer the opportunity to interested individuals to join and also to recognise that some members will move on over time, particularly students towards the end of their degree programme.

The EDI committee will have responsibility for overseeing implementation of our Athena SWAN action plan. We plan initially to meet twice a term. EDI will report to the School Committee (which includes representatives of all staff); the HoS will ensure the business is reflected in the discussions of the School Senior Management Team. EDI will also be a standing item on the School Research Committee and the School Education Committee (EDI members also sit on these committees). The School Education Committee also includes student representatives who are members of the EDI Committee. The EDI Committee will act as a challenge group to the core teams responsible for our three key areas of focus – Students, Staff and Culture/Environment.

The proposed structure will enable the SAT to table action plan items with the relevant committees, and thereby affect and monitor change throughout the School in an efficient and sustainable way. This approach will richly embed the EDI agenda in the culture and detailed working and development of the School.

Words: 846

4. A PICTURE OF THE DEPARTMENT

4.1. Student data

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

Not applicable.

(ii) Numbers of undergraduate students by gender

Undergraduates by gender

The number of undergraduates in the SoE by gender is presented in Figure 2 which shows that in 2017/18 females represented 15.4% of undergraduates. Our current figure of 15.4% is slightly higher than the sector (14%). The number and percentage of undergraduate females in each department in 2017/18 was Civil Engineering (n = 40; 18.9%), Electrical, Electronic & Systems Engineering (n = 45; 17.6%) and Mechanical Engineering (n = 99; 13.8%). The data for home/EU and overseas students are very similar to the overall data. Over the 3 year period shown we have made progress on increasing the number of female undergraduates with the number of females increasing by nearly 9% (from 169 to 184). However, with a 20% increase in males in the same period the percentage of females in the undergraduate population has declined slightly.

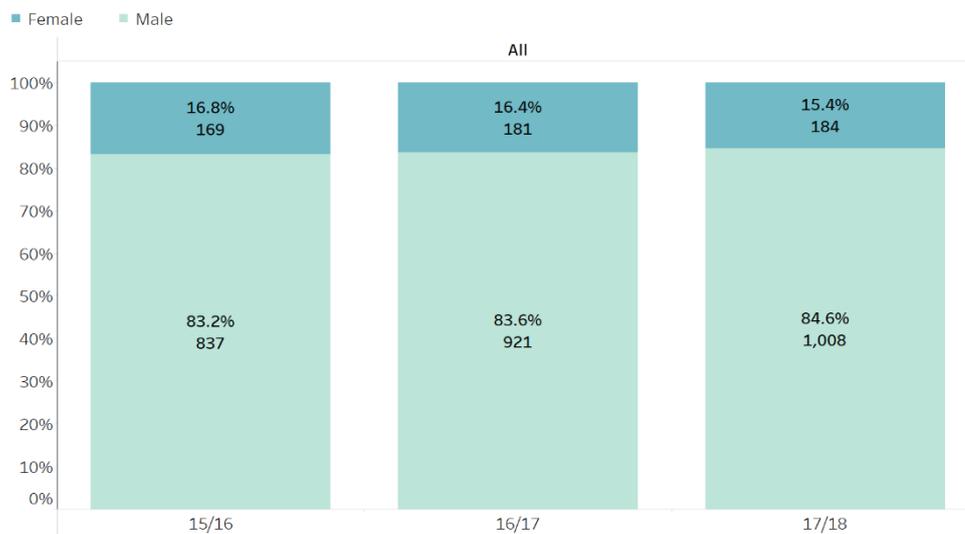


Figure 2. Undergraduate students by gender in the SoE in 2016/16, 2016/17 and 2017/18.

Undergraduate applications

In the last three years the number of applications from females has ranged from 423 to 474 (Figure 3). Of these applications a higher percentage of females are made offers compared to males; 87.0% of females were made offers in 2018/19 compared to 75.7% males; however, the overall number of applications from females remains low. The percentage of females accepting offers is slightly higher than males (28.4% vs 27.0% in 2019/19). The data for the individual departments in 2018/19 were as follows:

- Civil Engineering (119 applicants; 84% made offers; 23% accepted);
- Electrical, Electronic & Systems Engineering (90 applicants; 80% made offers; 26.4% accepted);
- Mechanical Engineering (192 applicants; 89.1% made offers; 35.7% accepted);
- General Engineering (52 applicants; 98.1% made offers; 17.6% accepted) – note these students choose a specific subject at the end of year 1.

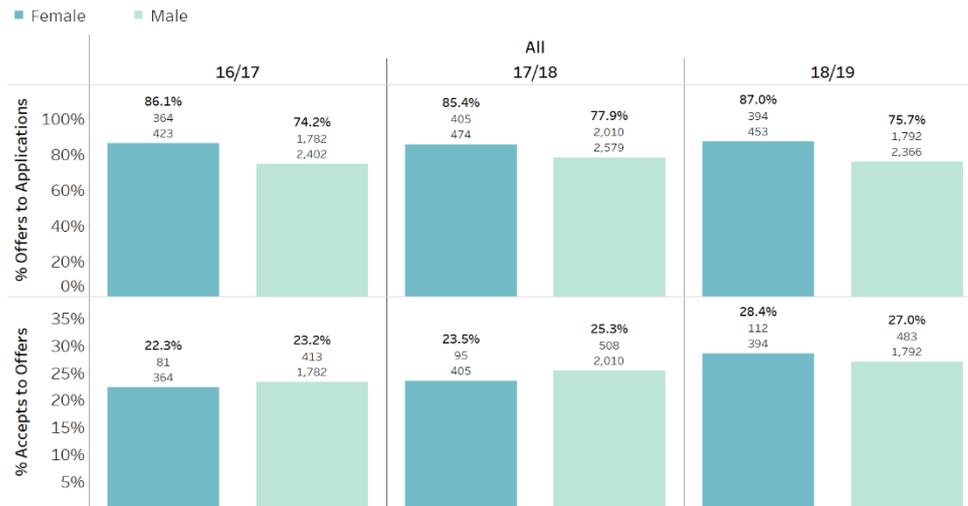


Figure 3. Undergraduate applications in the SoE in 2016/17, 2017/18 and 2018/19.

Undergraduate Degree Attainment

Table 1 shows the degree attainment for undergraduate students in the SoE. The percentage of females and males being awarded a good degree (either a 2i or 1st) in 2017/18 are both high with 91.5% for females and 86.1% for males in 2017/18. The data for the individual departments in 2017/18 are shown in Table 2. In Civil and Mechanical Engineering 100% of females achieved a good degree, with 75% for Electrical, Electronic & Systems Engineering. Although this difference exists it was down to 4 female students not obtaining a good degree.

Although our female undergraduate students perform well in attainment, there is a feeling amongst some of our female undergraduates, from Academic Reviews, that they have to work harder than male students to achieve the same result. This has been identified as a particular issue in group projects where a female can find herself as a lone female amongst a group of 6 males. Our planned improved support for female undergraduates is outlined in the Culture section on page 39.

Table 1. Undergraduate degree attainment in the SoE in 2015/16, 2016/17 and 2017/18

	Females			Males		
	2015/16	2016/17	2017/18	2015/16	2016/17	2017/18
Total students	44	47	47	187	220	258
1 st	18 (40.9%)	22 (46.8%)	30 (63.8%)	89 (47.6%)	106 (48.2%)	130 (50.4%)
2i	18 (40.9%)	18 (38.3%)	13 (27.7%)	60 (32.1%)	86 (39.1%)	92 (35.7%)
2ii	6 (13.6%)	7 (14.9%)	3 (6.4%)	25 (13.4%)	22 (10%)	25 (9.7%)
3 rd /pass	2 (4.6%)	0	1 (2.1%)	13 (6.9%)	6 (2.7%)	11 (4.2%)

Table 2. Undergraduate degree attainment in 2017/18

	Females			Males		
	Civil	Elec	Mech	Civil	Elec	Mech
Total students	9	16	22	47	73	138
1 st	7 (77.8%)	6 (37.5%)	17 (77.3%)	20 (42.6%)	25 (34.2%)	85 (61.6%)
2i	2 (22.2%)	6 (37.5%)	5 (22.7%)	17 (36.2%)	28 (38.4%)	47 (34.1%)
2ii	0	3 (18.8%)	0	5 (10.6%)	14 (19.2%)	6 (4.3%)
3 rd /pass	0	1 (6.2%)	0	5 (10.6%)	6 (8.2%)	0

Conclusions and actions

A key action for the SoE is to increase the number of female undergraduates as we believe that it is important to have more gender balance in the student cohort to develop a more creative and innovative environment. In order to increase the number of female undergraduates we first have to increase the number of applications [Action 6]. In this action we will:

- Ensure that at least 30% of student ambassadors to be used on Open Days and Offer Holder Days are female so that prospective female students have role models to engage with;
- Review marketing literature and web pages to ensure that they fully represent the diverse student population in the School of Engineering;
- Review the marketing literature and web pages to ensure that gendered wording is balanced between feminine- and masculine-coded words;
- Increase the visibility of subjects, such as Biomedical Engineering, that females have been shown to be drawn to;
- Organise an annual Females in Engineering Celebration Day and invite Offer Holders to attend so that engineering opportunities for females can be showcased;
- Increase the visibility of female staff at Open Days and Offer Holder Days. As most of these events are on Saturdays childcare will be organised on campus;
- Submit an application for funding for public engagement to encourage females into engineering;
- Organise a number of female only Offer Holder Days so that the day can focus more clearly on the engineering opportunities for females.

This action will be judged successful if by 2023/24 applications from females for undergraduate programmes have increased by 15%.

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

Figure 4 shows the number of postgraduate taught students by gender. A greater percentage of our postgraduate taught students are female (21.7%), compared to our undergraduates (15.4%). However, we are below the sector average where 24.3% of postgraduate taught students are female. The number and percentage of undergraduate females in each department in 2017/18 was Civil Engineering (n = 58 (23 part-time); 23.5%), Electrical, Electronic & Systems Engineering (n = 83 (39 part-time); 21.8%) and Mechanical Engineering (n = 8 (zero part-time); 13.3%). The data show that more of our female postgraduate taught students are from overseas (23.6%) compared with home/EU students (16.9%). This could be due to many of the home/EU students taking the four year integrated masters (MEng) programmes at undergraduate level and therefore not requiring an MSc for career progression.

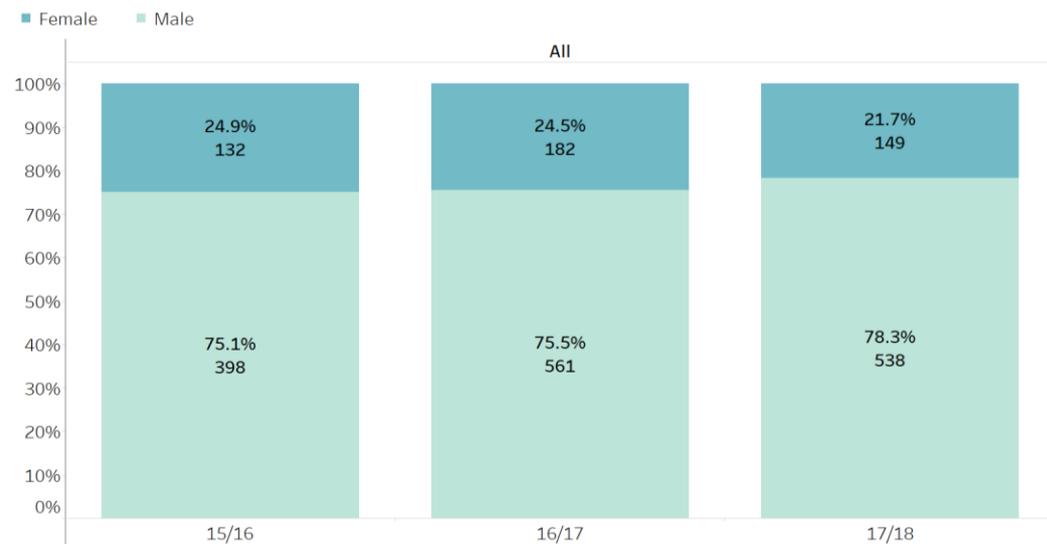


Figure 4. Postgraduate taught students by gender in the SoE in 2016/16, 2016/17 and 2017/18.

Postgraduate Taught applications

The number of applications for postgraduate taught programmes from females and males has dropped from the figures in 2016/17 as a number of Engineering MSc programmes have been transferred to the Business School and are no longer included in the data for the SoE (Figure 5). Concentrating on the data for 2017/18 and 2018/19, shows a higher percentage of females are made offers compared to males; 78.0% of females were made offers in 2018/19 compared to 70.3% of males. This shows that we are receiving higher quality applications from females, however, the overall number of applications from females remains lower than from males. The percentage of females accepting offers is higher than males (70.0% vs 62.8% in 2018/19). The data for the individual departments in 2018/19 were as follows:

- Civil Engineering (166 applicants; 74.1% made offers; 60.8% accepted);
- Electrical, Electronic & Systems Engineering (220 applicants; 84% made offers; 75.9% accepted);
- Mechanical Engineering (30 applicants; 63.8% made offers; 76.7% accepted).

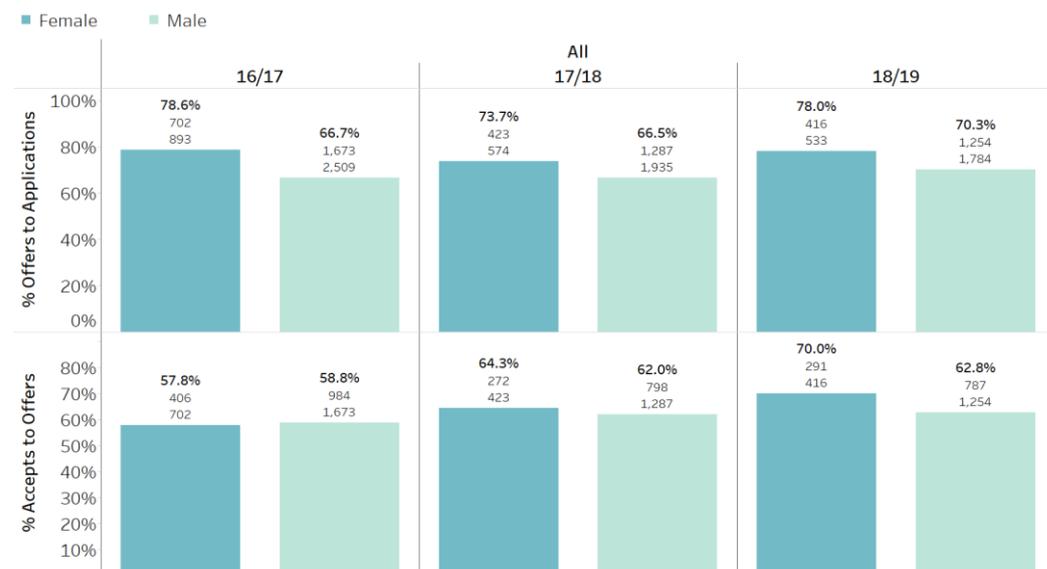


Figure 5. Postgraduate taught student applications in the SoE

in 2016/17, 2017/18 and 2018/19.

Postgraduate Taught Degree Attainment

For postgraduate taught students the degree attainment between males and females is comparable (Table 3). The data for the individual departments in 2017/18 are shown in Table 4.

Table 3. Postgraduate degree attainment in the SoE in 2015/16, 2016/17 and 2017/18

	Females			Males		
	2015/16	2016/17	2017/18	2015/16	2016/17	2017/18
Total students	107	126	100	286	308	271
Distinction	15 (14%)	22 (17%)	22 (22%)	62 (22%)	62 (20%)	50 (18%)
Merit	59 (55%)	67 (53%)	42 (42%)	125 (44%)	134 (44%)	122 (45%)
Pass	33 (31%)	37 (29%)	36 (36%)	99 (35%)	112 (36%)	99 (37%)

Table 4. Postgraduate degree attainment in 2017/18

	Females			Males		
	Civil	Elec	Mech	Civil	Elec	Mech
Total students	41	52	7	95	129	47
Distinction	2 (5%)	20 (38%)	0	13 (14%)	27 (21%)	10 (21%)
Merit	20 (49%)	17 (33%)	5 (71%)	47 (49%)	60 (46%)	15 (32%)
Pass	19 (46%)	15 (29%)	2 (29%)	35 (37%)	42 (33%)	22 (47%)

Conclusions and actions

A key action for the SoE is to increase our number of female postgraduate taught students to create a more gender balanced student cohort. In order to increase the numbers of postgraduate taught females we first have to increase the number of applications [Action 7]. In this action we will:

- Ensure that at least 30% of student ambassadors on Postgraduate Open Days are female so that prospective female students have role models to engage with;
- Review the marketing literature and web pages to ensure that they fully represent the diverse student population in the School of Engineering;
- Review the marketing literature and web pages to ensure that gendered wording is balanced between feminine- and masculine-coded words;
- Organise a number of female only Postgraduate Virtual Open Days so that the day can focus more clearly on the engineering opportunities for females.

This action will be judged successful if by 2023/24 applications from females for postgraduate taught programmes have increased by 15%.

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

Postgraduate research students by gender

The data for postgraduate research students are presented at School level as all Research Centres are cross-school, involving researchers from all school disciplines. Figure 6 shows that we have seen a slight decrease in the proportion of female postgraduate research students to 20.3% in 2017/18 (below the sector average of 22.8%). The data for home/EU and overseas students is very similar to the overall data. Looking across the various research groups in the SoE there are certain research areas,

such as Biomedical Engineering, Tribology and Environmental Engineering that attract at least 50% females. This shows that there no obvious barriers to attracting female postgraduate research students to some research subject areas and gender balance is possible. However, we intend to try and find out why certain research areas appear more attractive to female researchers.

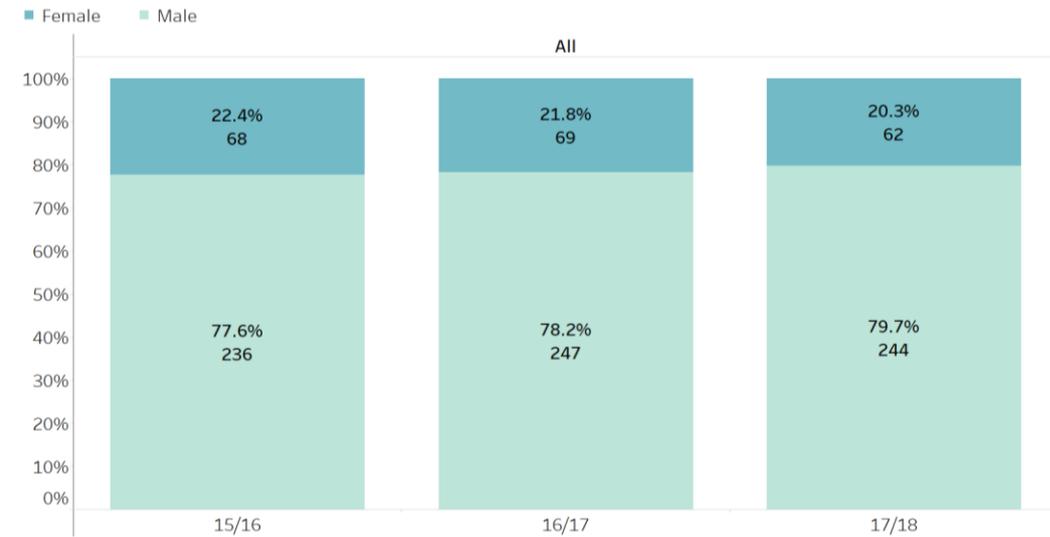


Figure 6. Postgraduate research students by gender in the SoE in 2016/16, 2016/17 and 2017/18.

Postgraduate research student applications

The number of postgraduate research student applications from females has dropped in the last three years from 85 in 2016/17 to 68 in 2018/19 (Figure 7). The data show a higher percentage of females are made offers compared to males; 60.3% of females were made offers in 2018/19 compared to 42.6% of males. This shows that we are receiving higher quality applications from females, however, the overall number of applications from females remains low. The percentage of females accepting offers is slightly higher than males (68.3.0% vs 66.2% in 2018/19).

Funding sources for postgraduate research students are varied with many students funding themselves, while for overseas students many access local sources in their own countries. The School has control of some funds to support students who have no other possibilities, but this affects a very small proportion of students.

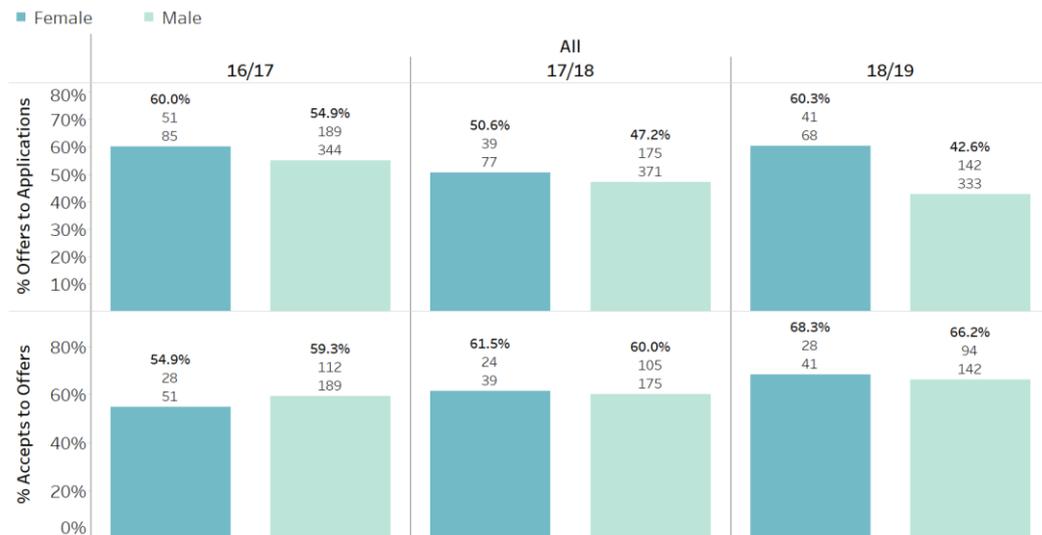


Figure 7. Postgraduate student applications in the SoE in 2016/17, 2017/18 and 2018/19.

Postgraduate research completions

For postgraduate research students the degree completions between males and females is comparable when the overall numbers of males and females are considered (Figure 8).

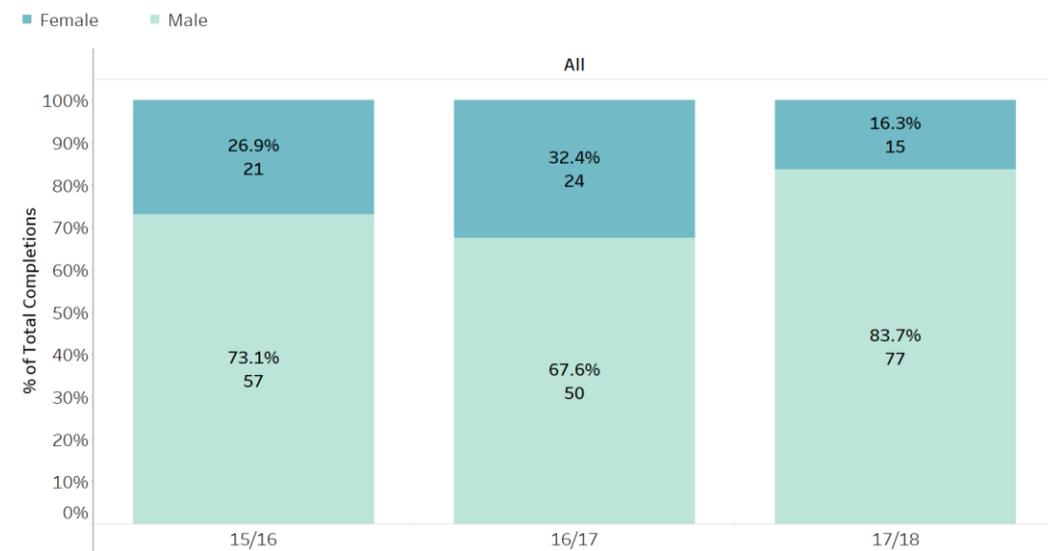


Figure 8. Postgraduate research completions by gender in the SoE in 2016/16, 2016/17 and 2017/18.

Conclusions and actions

A key action for SoE is to increase the number of female postgraduate research students to help increase the pipeline of researchers for academic positions. In order to increase the numbers of female postgraduate research students we first have to increase the number of applications and to better understand why it appears females are attracted to certain research areas [Action 14]. In this action we will:

- Invite female final year students to research seminars;

- Review web pages and publicity material to ensure that they reflect the diversity in our research;
- Review marketing literature and web pages to ensure that gendered wording is balanced between feminine- and masculine-coded words;
- Organise a lunch for female final year students to learn about the opportunities to study for a PhD;
- Interview all current female postgraduate research students to find out what attracted them to their research area and to see if there are lessons that can be used in research areas where females number are low.

This action will be judged successful if by 2023/24 applications from females for postgraduate research study will have increased by 15%.

(v) **Progression pipeline between undergraduate and postgraduate student levels**

The majority of undergraduate students graduate with an MEng (integrated undergraduate masters) and, therefore, very few study for a postgraduate taught programme. Further, the job market for graduates from undergraduate programmes in engineering is extremely healthy and at the moment most of our graduates move into employment rather than postgraduate study. The latest data show that the percentage of graduates from undergraduate programmes in the SoE that go into further study are:

- 7.3% (Electrical, Electronic & Systems Engineering);
- 14.9 % (Mechanical Engineering);
- 19% (Civil Engineering).

4.2. Academic and research staff data

(i) **Academic staff by grade, contract function and gender: research-only, teaching and research or teaching-only**

Gender of academic and research staff

Figure 9 shows the total number of staff by gender for all academic and research staff. Currently 15% of staff are female. In 2018 there were 9 female academics (3 Professors, 1 Senior Lecturer and 5 Lecturers) and 17 female research staff (1 Senior Research Fellow, 13 Research Fellows and 3 Research Assistants). We acknowledge that to create a diverse SoE we aspire to increase the number of female academic and research staff.

4.2.i All Academic Staff by Grade

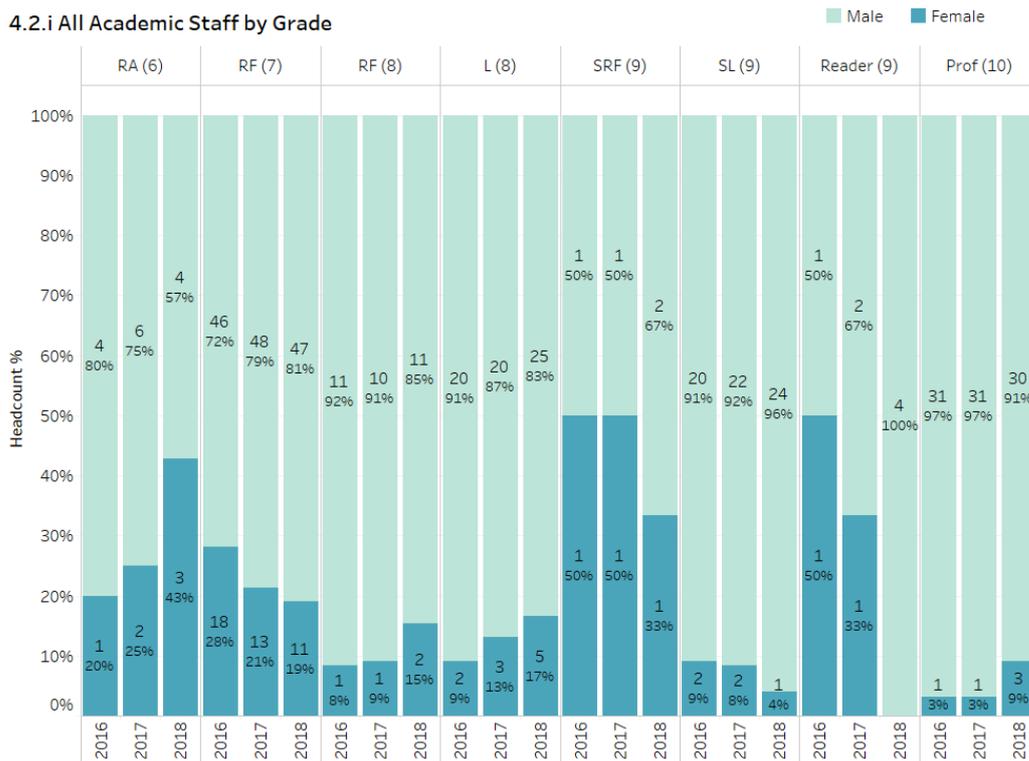
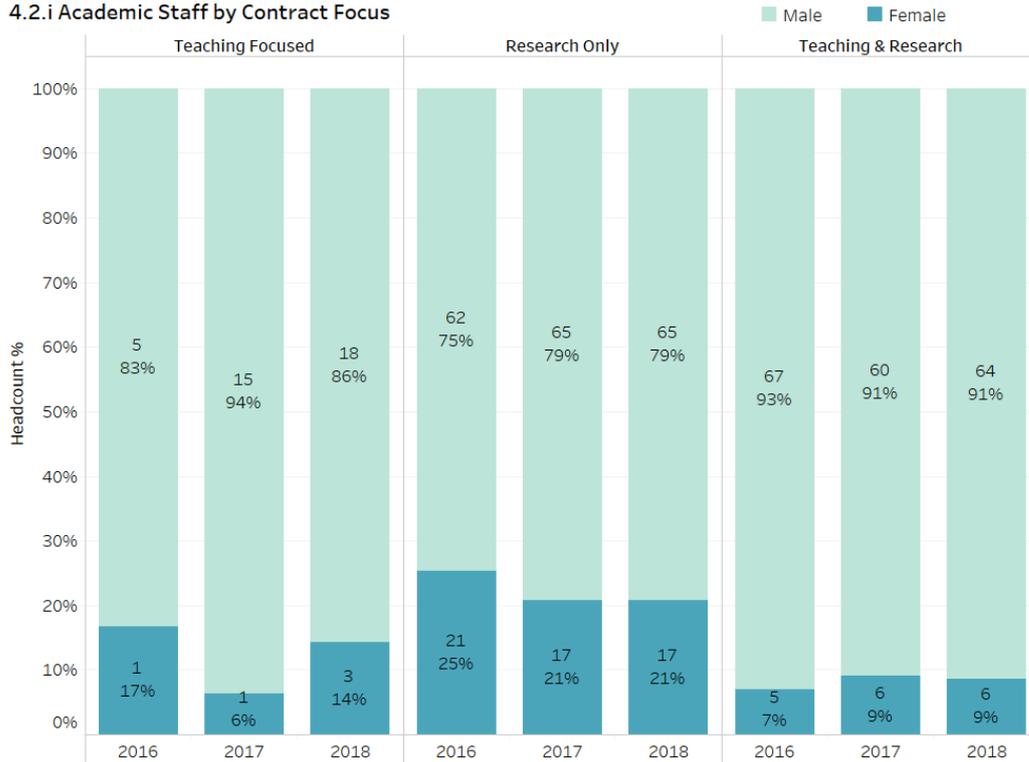


Figure 9. Number of staff by gender for academic and research staff.

Figure 10 shows the number of teaching focussed academic staff. There are a total of 21 teaching focussed academics of which 3 are female (all lecturers). It should be noted that there has been a large increase in the numbers of teaching focussed academic staff since 2016, which was part of the strategy for the new School of Engineering. Most of these staff (all male) moved to a new contract, rather than these positions being new advertised posts.

4.2.i Academic Staff by Contract Focus



Source: Human Resources data, updated January 2019.
 Application Type: Bronze; College: CoEPS; School: Engineering; Department: All; Disaggregated

Figure 10. Contract focus by gender for academic and research staff.

Female academic staff pipeline

Figure 11 shows the pipeline of female staff. Currently there are 5 female Lecturers and 1 Senior Lecturer with the opportunity to progress through the grades to Professor. Four of the female lecturers have been appointed within the last 3 years. There are currently 13 female Research Fellows with the potential to progress to Lecturer and we will work with these researchers to coach and prepare them for future opportunities. An excellent example of how the female academic pipeline works and how females are supported through this process is Professor Metje. She has progressed through the academic ranks from Research Fellow to Reader in 2016 and to Professor in 2018. Professor Metje received mentoring support from senior research and management colleagues in the School and from a Royal Academy of Engineering Visiting Professor (part of whose role is to encourage female staff development in the School). Professor Metje now provides an important role model and mentoring support, one that was previously missing from the School, to junior female academics. An example of this is that Professor Metje is mentoring Dr Naomi Green (Postdoctoral Research Fellow) after Dr Green was awarded a 3 month Inclusion Matters grant from the University to help her to develop an independent research career towards becoming an academic.

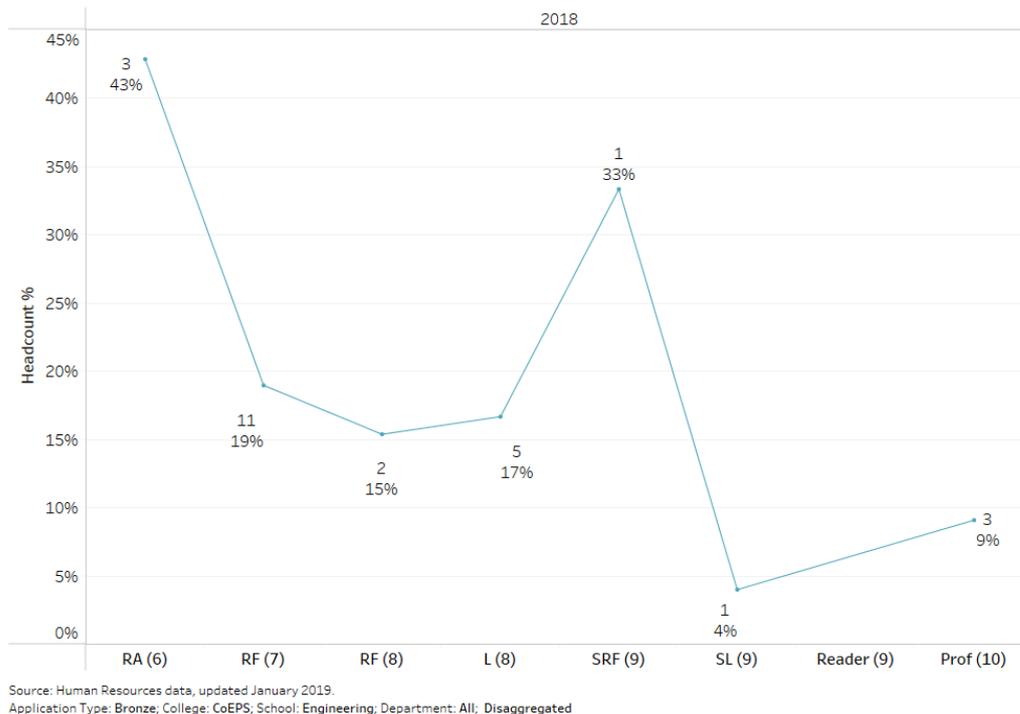


Figure 11. Female academic staff pipeline.

Conclusions and actions

A key action for the SoE is to increase the number of female research staff that progress through to academic positions. There are a number of barriers to developing national and international research collaborations for females, particularly when they have childcare responsibilities. In order to increase the opportunities of female research staff progressing to academic position we need to provide much greater support [Action 8]. In this action we will:

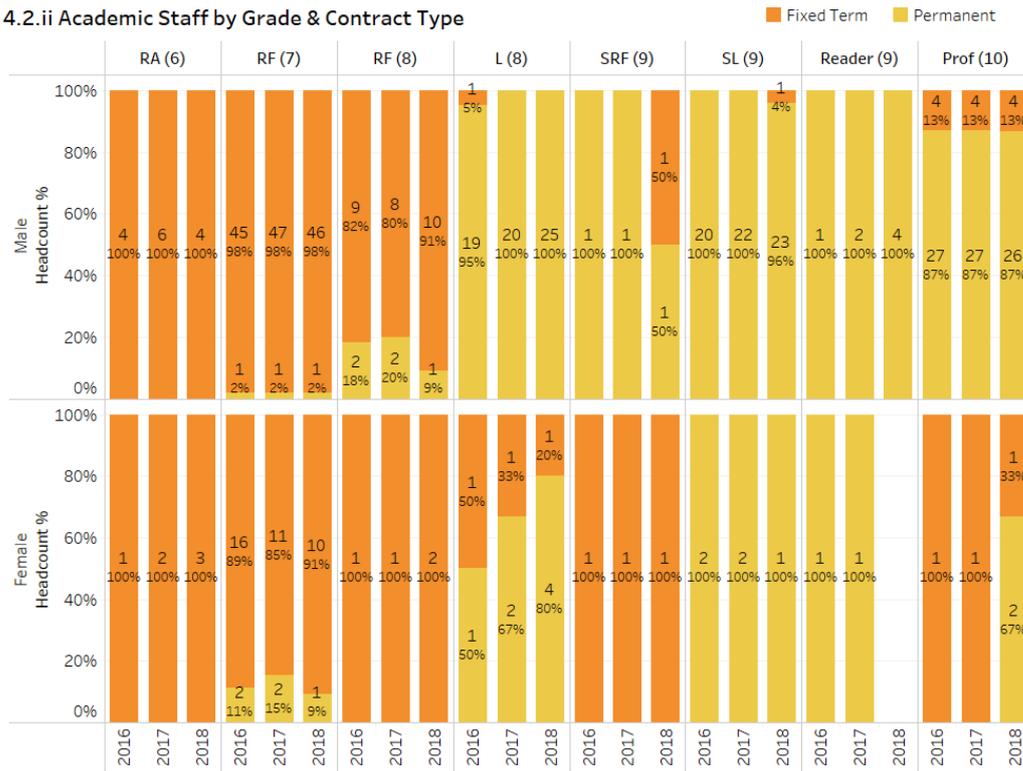
- Ensure that all female Research Fellows are offered the opportunity to have a female mentor (mentors will be across the University) to coach and prepare them for future academic positions;
- Offer childcare expenses to enable national and international travel;
- Invite all female Research Fellows to meet individually with the SoE female Royal Academy of Engineering Visiting Professors to discuss career plans;
- Invite all female Research Fellows to submit CVs to the Head of School/Heads of Department prior to academic jobs being advertised so that feedback is given on CVs and encouragement can be given to apply for the positions.

This action will be judged successful if there is positive feedback from female researchers in their annual Performance Development Review.

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

Figure 12 shows academic staff by grade and contract type. Most Research Fellows, whether they are male or female, are on fixed-term contracts as they are externally funded by research grants. Academic staff on fixed term contracts all hold other positions elsewhere, mainly in industry, for example a number of these staff are Royal Academy of Engineering Visiting Professors.

4.2.ii Academic Staff by Grade & Contract Type



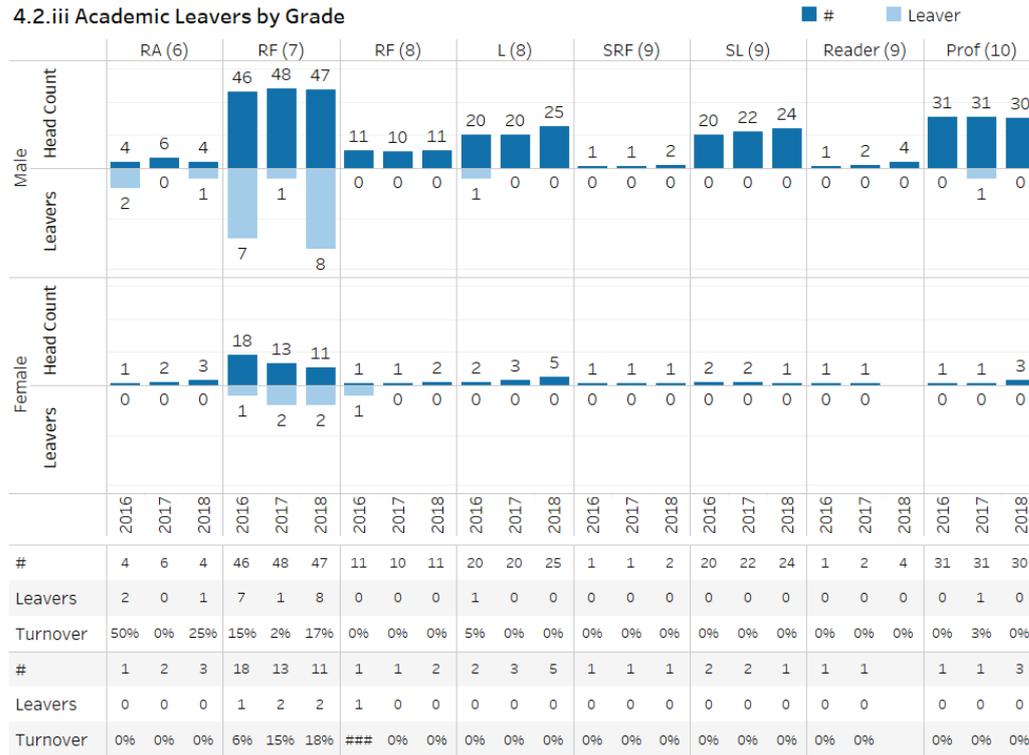
Source: Human Resources data, updated January 2019.
 Application Type: Bronze; College: CoEPS; School: Engineering; Department: All; Disaggregated

Figure 12. Academic staff by grade and contract type.

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

Figure 13 shows academic leavers by grade and it shows that between 2016 and 2018 only 2 academic staff left the University, and both were males who retired. Most leavers are researchers who have reached the end of their fixed-term contract, or who move into an academic position at the UoB or another university. The data show no differences between males and females.

4.2.iii Academic Leavers by Grade



Source: Human Resources data, updated January 2019.
 Application Type: Bronze; College: CoEPS; School: Engineering; Department: All; Disaggregated

Figure 12. Academic leavers by grade.

Words: 2012

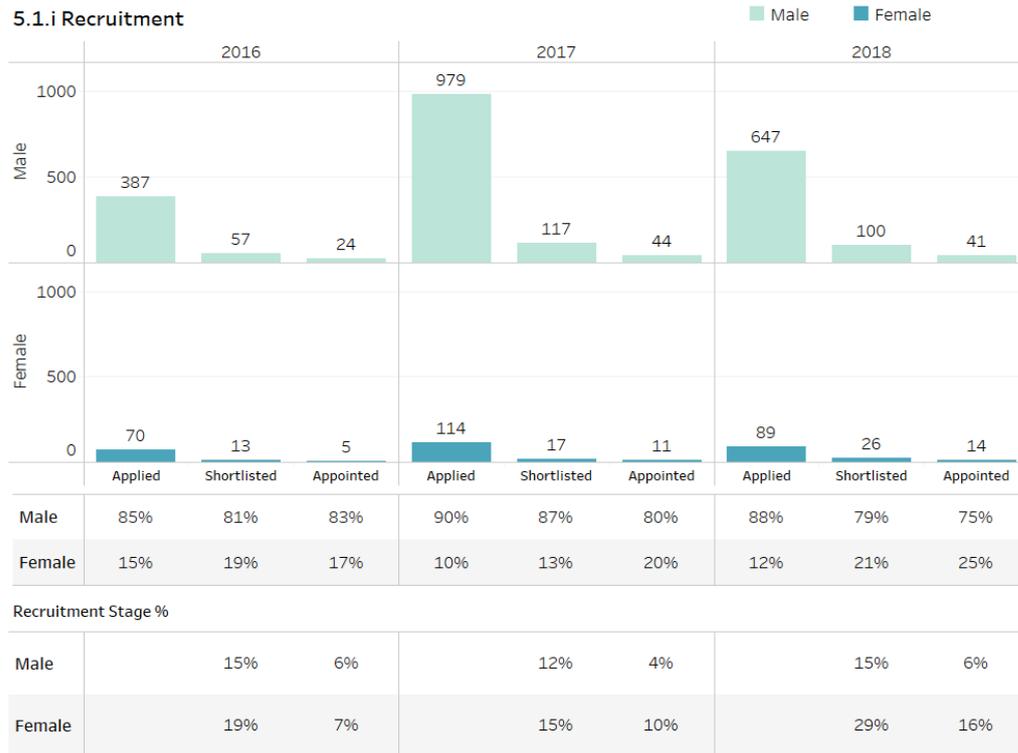
5. SUPPORTING AND ADVANCING WOMEN'S CAREERS

5.1. Key career transition points: academic staff

(i) Recruitment

The number of female applicants for all academic positions is low (Figure 14); in 2018 only 12% of applications were from females. However, following interview 25% of the appointments were female. This implies that although the number of applications from females is low, there appears to be a higher proportion of quality applications than from males.

5.1.i Recruitment

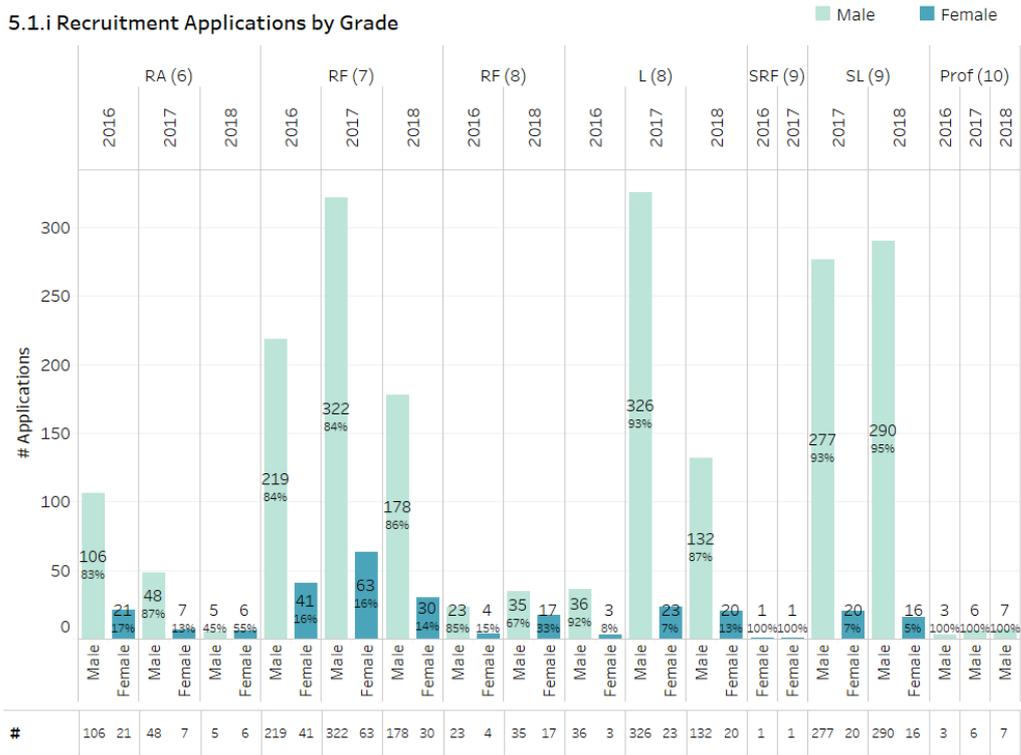


Source: Human Resources data, updated January 2019.
 Application Type: Bronze; College: CoEPS; School: Engineering; Department: All; Disaggregated

Figure 14. Applications, Shortlisting and Appointments by gender.

When the recruitment application data are analysed by grade (Figure 15) it shows that very few applications are received from females for academic posts; in 2018 applications from females were 13% for Lecturer, 5% for Senior Lecturer and zero for Professor. The picture for applications for Research staff is slightly better with applications for Research Assistant being 55% female and for Research Fellow being 14% and 33% for Grade 8 and 9, respectively.

5.1.i Recruitment Applications by Grade

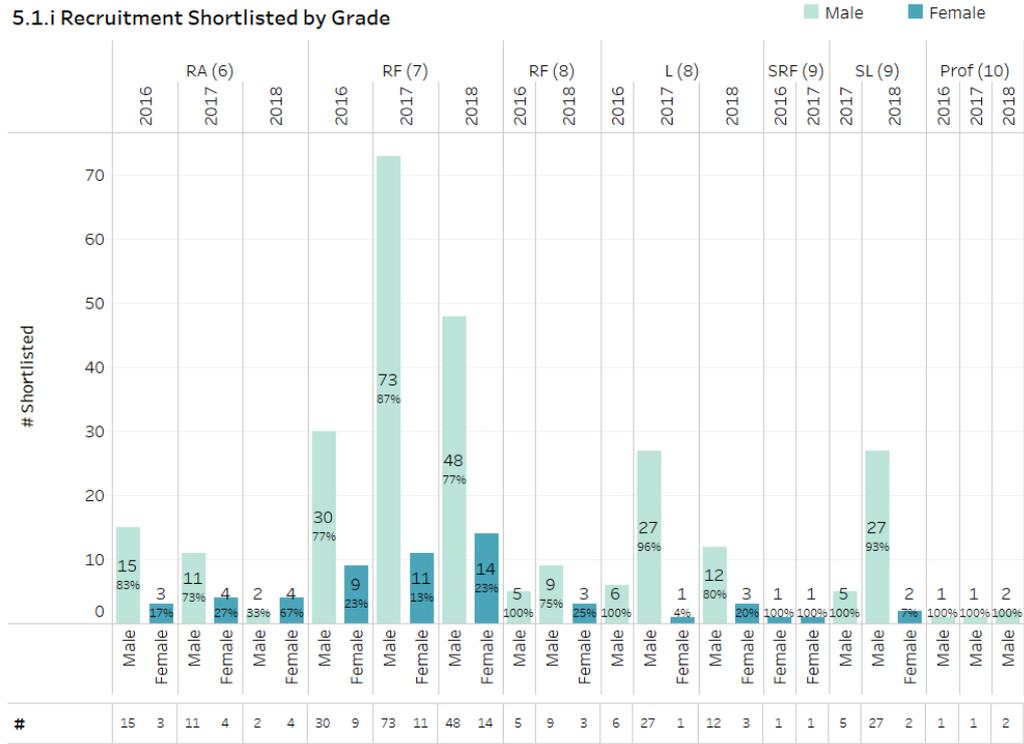


Source: Human Resources data, updated January 2019.
 Application Type: Bronze; College: CoEPS; School: Engineering; Department: All; Disaggregated

Figure 15. Recruitment applications by grade.

Although the number of applications from females is low, a higher percentage are short-listed (Figure 16) and appointed (Figure 17) compared to applications received from males.

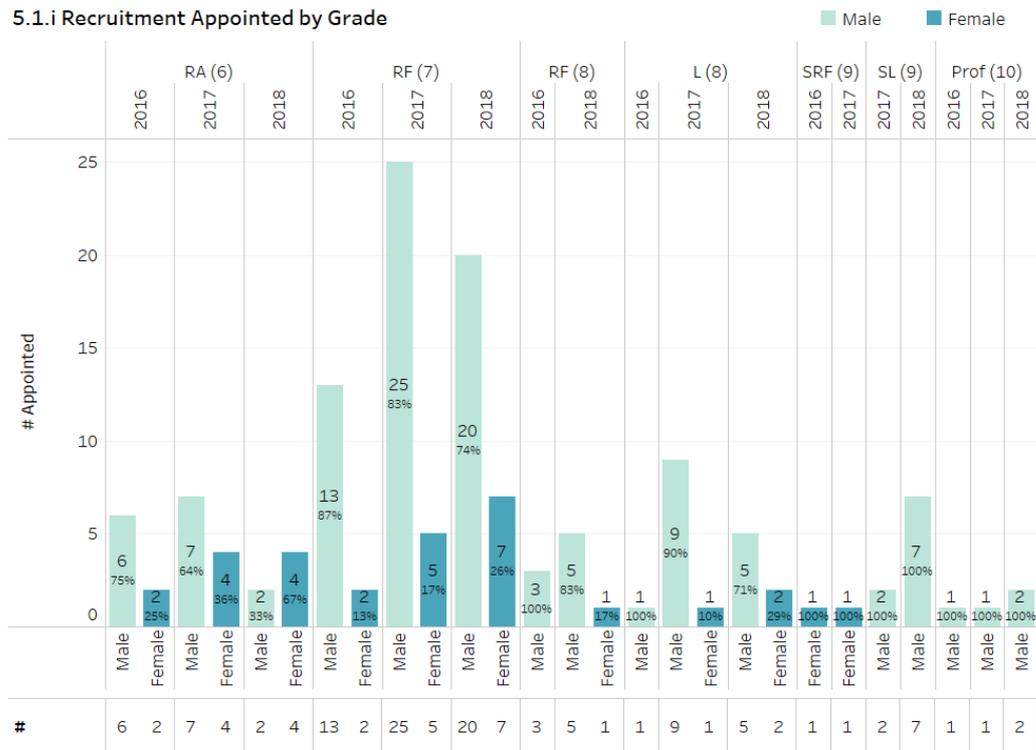
5.1.i Recruitment Shortlisted by Grade



Source: Human Resources data, updated January 2019.
Application Type: Bronze; College: CoEPS; School: Engineering; Department: All; Disaggregated

Figure 16. Recruitment short-listed by grade.

5.1.i Recruitment Appointed by Grade



Source: Human Resources data, updated January 2019.
Application Type: Bronze; College: CoEPS; School: Engineering; Department: All; Disaggregated

Figure 17. Recruitment appointed by grade.

Our current policies address gender bias in the recruitment process as follows:

- The advertisements for positions in the SoE (based on requirements set by University HR) display the Athena SWAN logo (institutional award) and identify our commitment to gender equality.
- Panels for lecturer posts and above have an academic member of staff from outside the School. This practice can be used to ensure that there is female representation on the panel if a female School academic is not available, thus avoiding female staff from being overloaded with administrative duties.
- It is UoB policy for all staff on appointment panels to undertake the UoB Diversity in the Workplace module and Recruitment & Selection training. This training includes the impact of unconscious bias.
- The People and Organisational Development (POD) Unit in the University facilitate stand-alone gender bias training.

Conclusions and actions

For academic positions we receive too few applications from females. We have to increase female applications so that we have a larger pool of female applications to short-list for academic positions [**Action 5**]. In this action we will:

- Ensure that all job adverts have a male and female member of staff to contact for informal enquiries;
- Ensure that all job adverts state that part-time and flexible working is available;
- Offer interview expenses to cover up to £200 towards childcare arrangements;
- Ensure that all job adverts for academic posts are sent to at least 10 potential female candidates to encourage them to apply;
- Ensure all interview panels include at least one female;
- Ensure that all positions are advertised on the Women's Engineering Society (WES) web pages;
- Actively promote University of Birmingham Recruitment Campaigns (e.g. Birmingham Fellow, Professorial Fellows) to female engineers;
- Set-up an Horizon Scanning Group to identify female researchers and female academics that can be targeted for recruitment;
- Review adverts and job descriptions to ensure that gendered wording is balanced between feminine- and masculine-coded words.

This action will be judged successful if by 2022 we have increased applications from females for academic posts to 20% and by 2023 the number of female academic staff has increased to 15% of staff.

(ii) Induction

The induction process is managed at School level, in addition to some University-wide events. Prior to the start date the line manager will have been sent an induction checklist. A new starter will meet with their line manager where they go through the induction process. This involves:

- Introductions to colleagues;
- SoE Staff Handbook;
- Tour of the building;
- ID card & keys;
- Discussion with line manager on: Induction plan, role/department and responsibilities, hours of work, lone working, probation review process;
- Health & Safety Induction.

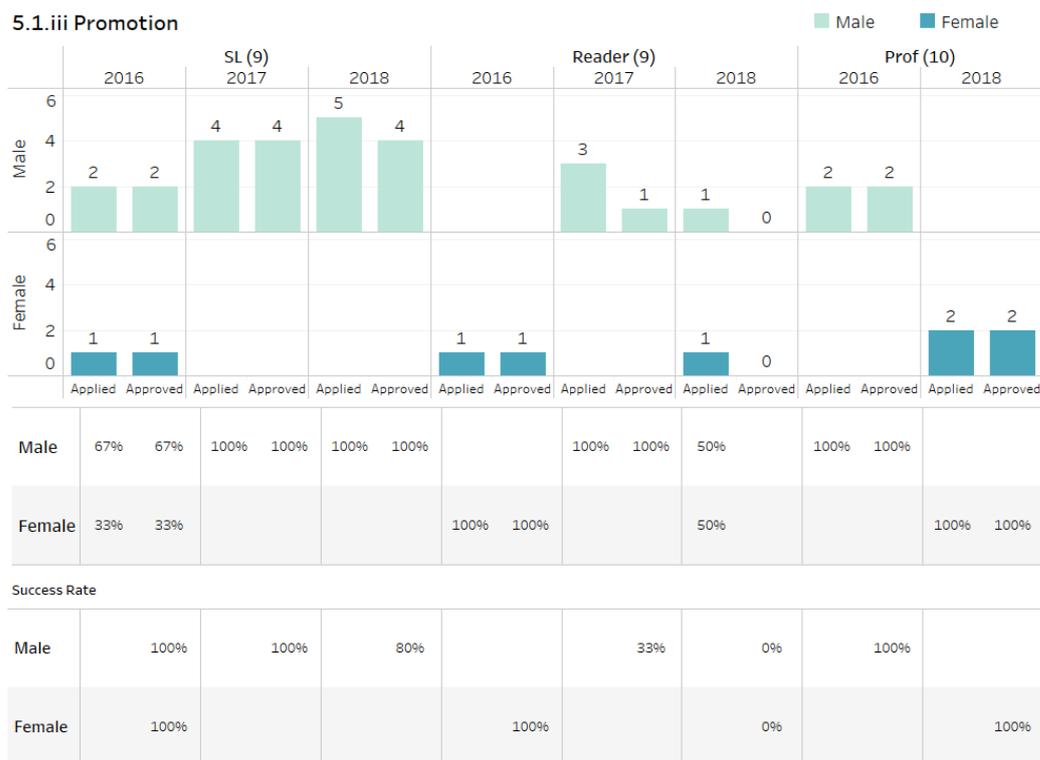
The induction process is mandatory and a signed record is kept in the SoE Hub. On reflection of the induction process and following feedback from recently appointed female academics it can lead to females feeling very isolated in the first few weeks of work in a male-dominated environment and the induction process can appear a tick box exercise. We are, therefore, going to revise the induction process for female staff [Action 19]. In this action we will:

- Ensure that new female staff are offered the opportunity to be in a shared office with other female staff;
- Ensure that existing staff go for coffee and lunch with new female staff during the first month of appointment;
- Ensure that new female staff have a weekly meeting with their Head of Department to ensure they are settling into the SoE.

This action will be judged successful if by 2022 newly appointed female staff report greater satisfaction with the induction process and integrate into the School more quickly.

(iii) Promotion

The data show that between 2016 and 2018 5 females applied for promotion and 4 were successful (80%). In the same period 16 males applied for promotion of which 13 were successful (81%). The success rates between males and females are virtually identical.



Source: Human Resources data, updated January 2019.
Application Type: Bronze; College: CoEPS; School: Engineering; Department: All; Disaggregated

Figure 18. Promotion by gender and grade.

There is an annual academic promotions process at the UoB which is communicated to all academic staff. Staff are encouraged to informally discuss their applications with their Head of Department. The Heads of Department also discuss eligibility for

promotion with staff during annual Performance Development Review meetings. In addition, the SoE encourages staff to seek mentors beyond their school, with characteristics they judge developmentally helpful, e.g. a female mentor, via the PoD team. For example Dr Lauren Thomas-Seale who is a Lecturer in Mechanical Engineering has a male mentor in Mechanical Engineering and two female mentors in Chemistry and Mathematics.

(iv) Department submissions to the Research Excellence Framework (REF)

Data on the submission vs eligibility for the RAE 2008 is not available at the University. The REF 2014 data are available for the three schools, before they became the SoE (Figure 19). The data does not show a bias with respect to gender by comparing submitted vs eligible staff. The University conducts pre-REF exercises; additional tracking of this data could identify any future gender balance issues prior to the REF and will provide opportunity to resolve.

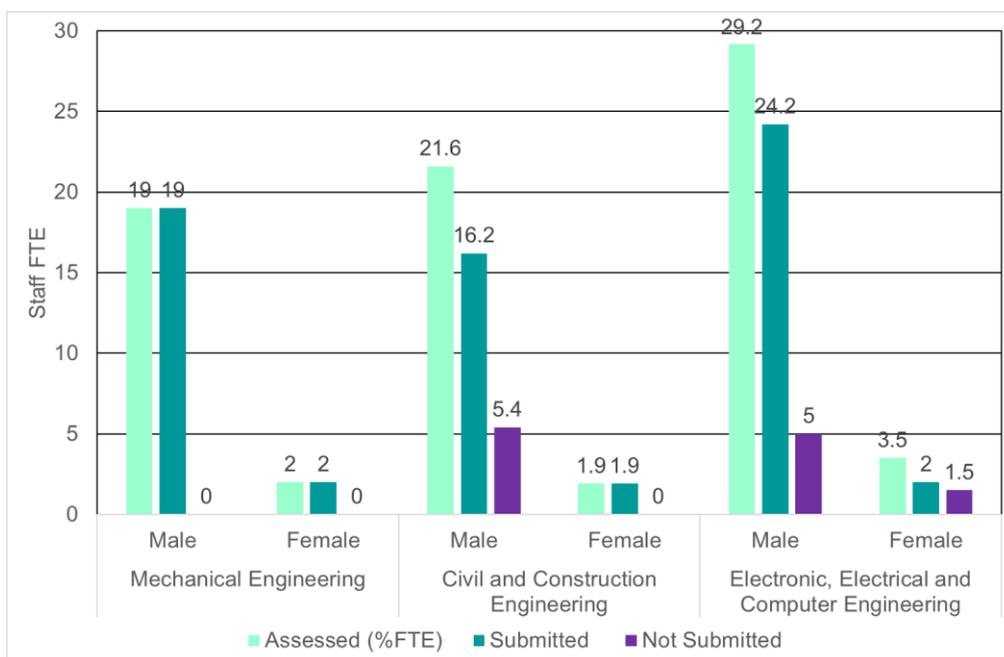


Figure 19. Staff submitted to REF 2014 by gender.

5.2. Career development: academic staff

(i) Training

Initial training for all staff is offered during central induction. This consists of a video presented by the Vice-Chancellor looking at EDI in action across the University (including Athena SWAN), details of University policies, such as flexible working and family leave, services such as the confidential Harassment Advice Service, and staff groups such as the Parents & Carers network and the Women’s Network Single Parents’ Network. During the induction process, the People and Organisational Development unit gives an overview of training and development courses offered by University.

During the local School induction, new staff are trained on the School’s policies and practices as regards probation, promotion, sabbaticals, parental leave, informal flexible working, research support, etc. All staff are required to undertake the Diversity in the Workplace online training module as part of their induction.

Activities at central level include recruitment and selection training, which is compulsory for all staff undertaking recruitment and selection activities or who sit on promotion panels and includes specific aspects on EDI and unconscious bias. Staff are only able to sit on recruitment and promotion panels if they have attended this workshop and completed the online EDI training. As these activities are compulsory, the uptake is 100% for both genders and it is monitored by the School Operations Hub.

The staff survey in March 2019 indicated that around 10% of female staff and those who chose not to disclose their gender identity (19% for males) disagreed or strongly disagreed with the question “The School of Engineering provides an inclusive and supportive working environment”. Free text comments included “There are examples of supportive working environments but also examples of the opposite. A similar comment goes for inclusivity. In terms of Academic staff, the male domination can at times shine through” and “It's inclusive and supportive in my immediate area but the wider school is more distant and there is more limited support”. To improve the inclusive and supportive working environment in the School for female staff a range of training and improved communication will, therefore, be adopted [**Action 2**]. In this action we will:

- Ensure all staff to attend Unconscious Bias Workshop run by People and Organisational Development;
- Ensure all staff complete the online equality and diversity training;
- Increase two-way communication between staff and senior management through restructuring format of department teas/school forum;
- Fully participate in the EPSRC funded University project “Challenging Different Forms of Bias in Physical Sciences and Engineering Research”, this involves a number of interventions such as reverse mentoring, where a junior BAME woman coaches a senior male;
- Develop an Active Bystander training programme to empower staff across the SoE to challenge poor behaviour related to an inclusive and supportive working environment.

This action will be judged successful if there is a reduction in responders identifying as female or who choose not to disclose their gender-identity who disagreed or strongly disagreed with the question “The School of Engineering provides an inclusive and supportive working environment” to 5% by the 2023 staff survey.

The SoE offers, through the University’s membership of Vitae, which is a non-profit programme seeking to enhance the skills and careers of researchers, a range of online courses and resources for researchers covering professional development, career management and planning, and careers inside and outside academia. Conferences and seminars with a focus on EDI are regularly advertised to all staff and budget to attend is provided by the College. Attendees are required to provide a brief summary of the training received and write reflective notes to share with other members of staff. An online training “PhD supervision refresher” is also required every 3 years for all the staff supervising PhD students to review University policies and training procedures of postgraduate researchers, with elements specific to leave of absence, extenuating circumstances, maternity/paternity leave, and part-time arrangements.

Training uptake by gender and its effectiveness is not monitored as it might be for the non-compulsory training opportunities and an action point has been included to resolve this [**Action 18**]. In this action we will collect data on staff training so that data can be

analysed by gender to ensure there is no bias. This action will be judged successful if by 2022 there is sufficient staff training data for analysis.

(ii) Appraisal/development review

All academic staff and postdoctoral researchers have a compulsory annual Performance Development Review conducted by their Head of Department or senior colleague. The uptake is 100% for both genders and is monitored by the Head of School. Staff reflect on their activities from the previous year on research, teaching and leadership. Objectives for the next year are then developed, including any training. Staff discuss their career plans and their aspirations for promotion in relation to their performance. The reviewer uses these discussions to give support and encourage staff to apply for promotion as appropriate. Given our low numbers of female staff, the reviewers are particularly conscious of the need to discuss and support the promotion plans of female academics.

All members of staff are required to include their contribution to promoting diversity in the School in their Performance Development Review to help embed Athena SWAN and EDI more thoroughly into the School culture. The Review forms are all reviewed by the Head of School and any areas of concerns and good practice are sent to the EDI Committee.

(iii) Support given to academic staff for career progression

Every year there is an academic promotion round that is advertised by the University and Head of School to academic staff. The timetable and required evidence are published on the University intranet and easily accessible to staff. The Head of School and Heads of Departments are available to discuss potential applications before or during their preparation. In most cases potential promotion cases will have been identified during Performance Development Reviews.

Staff who are unsuccessful in a promotion application are invited to meet the Head of School and/or Head of College, who will discuss the reasons why the case is not going forward and give advice on improvements that could be made to the case for future submissions.

For postdoctoral researchers, support for career progression is mainly given by their line managers by pointing out academic and industrial job opportunities through their contact networks. Although informal, this support mechanism has been proven to be effective and many former postgraduate researchers are now occupying academic positions in various Universities or important industrial R&D centres around the world. We acknowledge that this process may impact females as the majority of line managers are male. However, in the last year three female postdoctoral researchers in the SoE have been awarded a 3 month Inclusion Matters grant from the University to help her to develop an independent researcher career towards becoming an academic.

The staff survey in March 2019 indicated that around 31% of staff disagreed or strongly disagreed with the question "Career progression opportunities within the School are transparent and inclusive". The gender break-down to the answer was 18% female, 38% male and 25% no gender given. Free text comments included "Career progression for contract researchers is not clear" and "it is not clear to me what kind of career progression opportunities I may have in the future". The concerns of male staff will be looked at separately by the EDI Committee.

We plan to improve the career progression opportunities for female academic staff [**Action 3**]. In this action we will:

- Run an annual School workshop for female staff on promotions to explain the promotions process for academic, research and professional services staff;
- Publish the membership of the School promotions panels in advance of the deadline for applications;
- Run an annual School workshop on career opportunities for female contract research staff to promote carrier opportunities and options;
- Ensure that all Senior Management Team roles and committee roles have a transparent appointment process and will be time limited. Women will be actively invited to apply for the roles;
- Invite female staff aiming for promotion to senior levels to be mentored by a member of College Board;
- Ensure that females are nominated for university leadership programmes such as Emerging Leaders Programme and Senior Leaders Programme.

This action will be judged successful if there is a reduction in responders identifying as female or who choose not to disclose their gender-identity who disagreed or strongly disagreed with the question “Career progression opportunities within the School are transparent and inclusive” to 5% by 2022.

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

The School provides career support to undergraduate students, postgraduate taught students and doctoral students through dedicated careers events for the three Departments. The University-wide Careers Network also offers a range of advice such as CV writing and one-to-ones with a Careers Advisor.

Doctoral researchers are encouraged by their Research Groups to present papers at conferences and networking events, thus enabling them to learn about job opportunities at other academic institutions; funding is available for this from various sources within the School and College.

More work is still needed to give gender-focussed support to female students and this will be addressed through improved engagement with the Women's Engineering Society (WES) [**Action 15c**] and we will encourage more female members of the WES.

(v) Support offered to those applying for research grant applications

The School is organised into four Research Centres to intensify research collaborations between academics. The School Research Committee regularly updates academic staff about current and future funding opportunities. Targeted funding opportunities are also sent directly to individual members of staff by the Heads of the Research Centres.

Staff get support in the development of their research ideas from professional services and senior academic staff, and also by approaching industrial collaborators. They are also advised by the Finance Office on the definition of the financial plan. Dr Leah-Nani Alconcel is a dedicated Research Facilitator for Engineering who advises on the whole process of grant applications. Newly appointed staff are guided to University and College-wide research training workshops.

All grant proposals are peer-reviewed by senior colleagues to improve the quality of submissions. Mock panels with experienced members of staff are arranged to support staff applying for grants that include an interview stage. Early Career academics are fully supported in the preparation of their New Investigator Award, an Engineering and Physical Sciences Research Council funding scheme available for staff at the beginning of their academic careers, and put in contact with successful applicants in the School.

Staff who are unsuccessful in securing research funding have the opportunity to discuss the matter with their mentor and/or the Head of their Research Centre to understand potential weaknesses of their proposals and identify a strategy to improve their success rate.

Successful grant awards is not analysed by gender, but two of the top researchers in the SoE in terms of grant capture are female.

5.3. Flexible working and managing career breaks

(i) Cover and support for maternity and adoption leave: before leave

Maternity support is offered at University level within the HR team (financial implications) and at School level between the line manager (overall management), H&S manager (risk prevention) and operations manager (logistical implications). Information on maternity support before, during and after leave is made available to staff online. The University risk assessment for expectant and new mothers considers H&S implications of the following points:

- The additional risks from the work to the mother (display screen equipment, thermal comfort, manual handling, workload, radiation, chemical and biological exposure).
- The additional protection needed to prevent identified risks
- Provision of rest and breast-feeding facilities

For a female member of staff on maternity leave in the SoE all teaching and research supervision is allocated to other staff, based on the workload model.

A recent experience of a female academic who required maternity support was very poor and shows that although policies are in place, accessing the necessary support was inadequate. The particular issues identified were:

- Poor communication of the maternity support available;
- Unclear chain of responsibility for maternity support;
- Fractured implementation of maternity processes;
- Managing workload on an academic task-based contract.

The School plans to ensure that such poor support does not happen again and will be addressed in the action plan [**Action 16**]. In this action we will:

- Create a SoE maternity/paternity/partner/adoption/carer policy/menopause for line managers, including: key information (finances, H&S polices) / advice on communication strategies / clear identification of the people responsibility for implementation of maternity support / processes for workload management during pregnancy and upon return / processes for transitioning back to full-time work;
- Create an SoE “extended leave from research” policy, that outlines how research activities (existing and new) will be covered during the period of absence and effective use and management of KIT days (in line with **Action 15**);

- Ensure that female staff have a buddy appointed to provide support.

This action will be judged successful if by 2024 (considering the relative frequency of pregnancy in the SoE) case study examples of pregnant/ new parents/ returning staff/ carers should report good communication, management and implementation of maternity policies.

(ii) Cover and support for maternity and adoption leave: during leave

Pregnant and adoptive staff who have at least one year of continuous service prior to their expected week of childbirth (EWC)/adoption date, and who agree to return to work for 3 months following their chosen leave period are entitled to University Maternity Pay (UMP). UMP is paid for the first 18 weeks of maternity leave at full pay. All maternity pay is organised by University HR.

Where staff have one year of continuous service prior to their EWC but are employed on a fixed term contract with an end date that falls during their maternity leave, or within 3 months of their return, the 3 month return rule will not be applied. Instead, staff will receive either the full 18 weeks UMP or UMP up to their contract end date (within the 18 weeks). This change was introduced to support female post-doctorate fellows on fixed term contracts. This is a significant step forward in terms of encouraging females through to permanent positions.

Cover during maternity and adoption leave is organised by the line manager and is funded centrally by the University. The School encourages staff to make use of “Keeping in Touch” (KIT) and “Shared Parental Leave in Touch” (SPLIT) days. Communication and organisation of KIT and SPLIT days have been identified as an issue in the School [**Action 16 and 17**].

(iii) Cover and support for maternity and adoption leave: returning to work

Academic staff employed on contracts that involve teaching, research and administration, who have taken 6 months or more statutory maternity leave (SML), statutory adoption leave (SAL) or shared parental leave (SPL) are entitled to a reduction in workload for one term from one of the three elements of their contract. This will enable staff to re-focus on their research or teaching as appropriate. Arrangements need to be discussed and agreed by staff members and their Head of School in advance of the staff member’s return to work. The afore mentioned risk assessment will identify the need to rest and breast-feeding facilities. Communication and organisation of workload reduction has been identified as an issue in the school [**Action 16**].

The promotions processes, REF and all exercises that uses quantity of outputs as a performance measure will recognise that academic outputs have been impacted as a result of leave, part-time working arrangements or restrictions on activities due to pregnancy and breast-feeding (e.g. laboratory work). During a promotions panel Heads of Department will highlight any staff who are this category.

The CoEPS has recently completed the Developing Leaders Scheme which was funded by the Engineering and Physical Sciences Research Council and internally allocated. This scheme was designed to support academics who are returning to work following a career break or extended period of leave as a result of SML, SAL or SPL or to care for a dependant. The scheme was established to assist in raising the applicant’s research profile. Feedback compiled from this project was overwhelmingly positive.

Within the SoE, Dr Lauren Thomas-Seale won a Developing Leaders Award in 2016, which allocated funds for consumables, travel and childcare to allow her to conduct an industrial secondment. This was fundamental in her successful appointment to Lecturer in 2017.

(iv) Maternity return rate

From 2016-18 five members of staff (one academic) took maternity leave. All staff returned to work at the end of their leave period. We currently have one member of academic staff on maternity leave who plans to return in April 2020.

(v) Paternity, shared parental, adoption, and parental leave uptake

The University enhances Paternity Leave to 2 weeks at full pay and refers to this leave as 'partner leave' (PL), relevant to the biological father of the baby and/or the mother's spouse or civil partner who will have responsibility for the baby. Through University Policy, partners have the right to unpaid leave to attend up to 2 antenatal appointments or 2 adoption appointments.

PL is managed within the School between the staff member and their line manager. The School does not currently collate these data. Adoption Leave (AL) and Shared Parental Leave (SPL) are managed by HR. Collation of PL uptake data, unpaid leave for antenatal or adoption appointments and no uptake of SPL have been identified as issues in the School [**Action 17**].

(vi) Flexible working

The University's flexible working policy is the highlight of its initiative to support carers during their employment. The term 'flexible working' encompasses: part-time working, job sharing, term-time working, compressed hours, staggered hours and home working. It is promoted as a method of managing work-life balance and parental or caring responsibilities. The University has a thorough and inclusive formal and informal flexible working policy. Informal flexible working is agreed between staff and their line manager. Academic staff who are on task-based contracts, do not have contracted hours or an annual leave quota, they have significant flexibility to work offsite and outside of standard hours.

Formal flexible working arrangements are required when the member of staff wishes to reduce the hours that they work. Part-time contracts are agreed at the appointment stage or through a formal flexible working application. Managers will give serious consideration to a statutory flexible working request and whether it can be reasonably accommodated. The University's flexible working policy is promoted to staff during their induction and the policy is freely available on the University webpages.

Examples of working flexibly in the School include meeting school and nursery start and finish times, including school holidays, making child appointments, dealing with a partner working remotely, and dealing with family illness. Many of the female members of the SAT make use of flexible working to help with their work/life balance. Flexible working in the School is easy to arrange through line managers.

However, it is also recognised that the combination of flexible working and task-based contracts can lead to some female staff overworking. This is indicated by the staff survey in March 2019 where 35% of female staff (and identity not disclosed) disagreed

or strongly disagreed with the question “My work-life balance is good” and this is a priority to improve [**Action 1**]. In this action we will:

- Include a question during the annual Performance Development Reviews (PDR) to identify staff that require an improved work-life balance and agree person-specific actions to improve;
- Organise more informal School social events where staff can mix. To include termly staff breakfasts, lunches and afternoon teas so that staff can meet depending on their commitments;
- Develop a culture of accessible meetings which promotes flexible timings and digital communication technologies, for example more use of Office 365 and Skype for Business; look to make core hours between 10:00 and 16:00;
- Produce a semester calendar of School-focussed dates and events so that staff can synchronise life and work events;
- Develop a Staff-Student communication policy to reduce the volume of e-mail;
- Lobby the University to have teaching timetables available by April each year.

This action will be judged successful if by 2022 there is a reduction in female staff (and identity not disclosed) who disagreed or strongly disagreed with the question in the staff survey “My work-life balance is good” to 10%.

It is acknowledged that male staff also have caring responsibilities and use flexible working so Action 1 will help all staff in the SoE.

(vii) Transition from part-time back to full-time work after career breaks

There are currently no formal policies at University or School level to support the transition from part-time to full-time work. The School is fully supportive of staff adapting their working hours to accommodate their changing caring and career needs and would seek to accommodate such changes. This will be formally recognised in **Action 17**.

5.4. Organisation and culture

(i) Culture

It is acknowledged that the merger of three schools into one school in 2016 was a massive change and there is still work to do to improve integration of staff from the different disciplines. Staff in the School are located in two buildings, which inevitably has an impact on social interaction. We have monthly “Departmental teas” for staff consultation in an informal environment with refreshments and cakes. In summer 2020 a new SoE building will open which will host all staff. The new building has been design for more collaborative working, with shared offices and more communal areas for informal interactions. This should make the culture in the School more supportive.

In March 2018 the School of Engineering invited all academic, research and professional services staff to complete a survey focusing on the internal working culture and environment to gain data on staff views, comments and concerns, and to continue to promote the E&D agenda within the School.

The questions were identified by the Athena SWAN writing group with oversight from the Head of School, and colleagues were asked to rank their level of agreement with the following five statements:

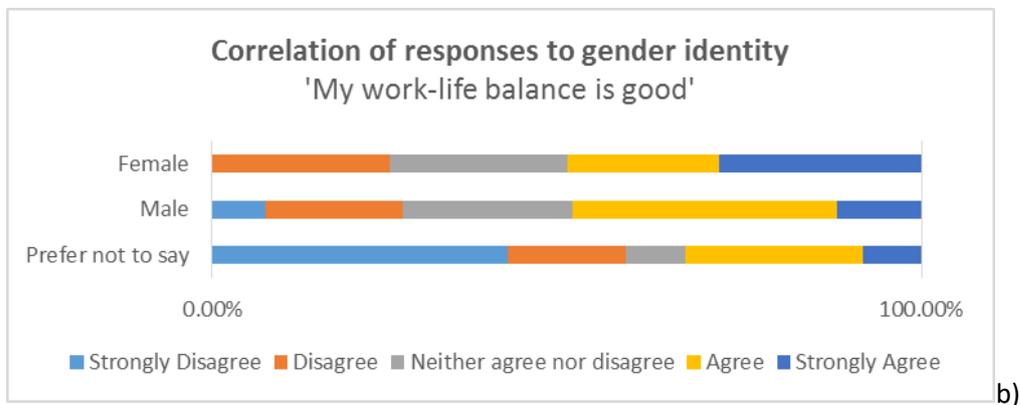
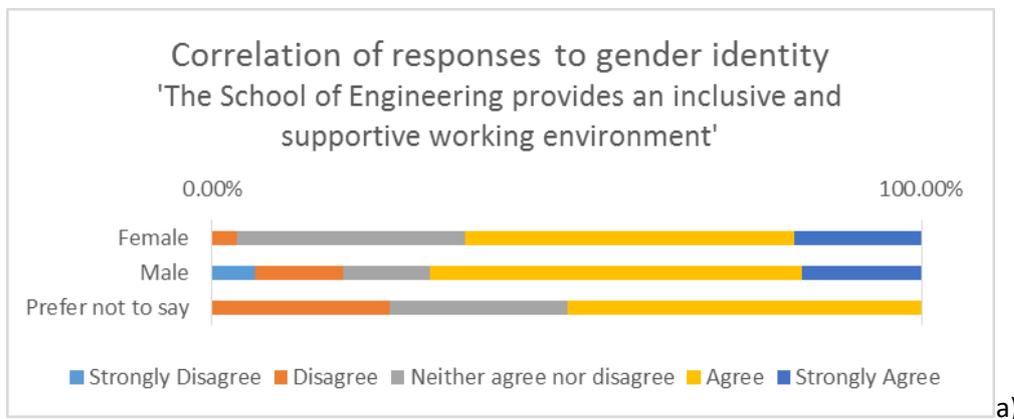
- The School of Engineering provides an inclusive and supportive working environment;

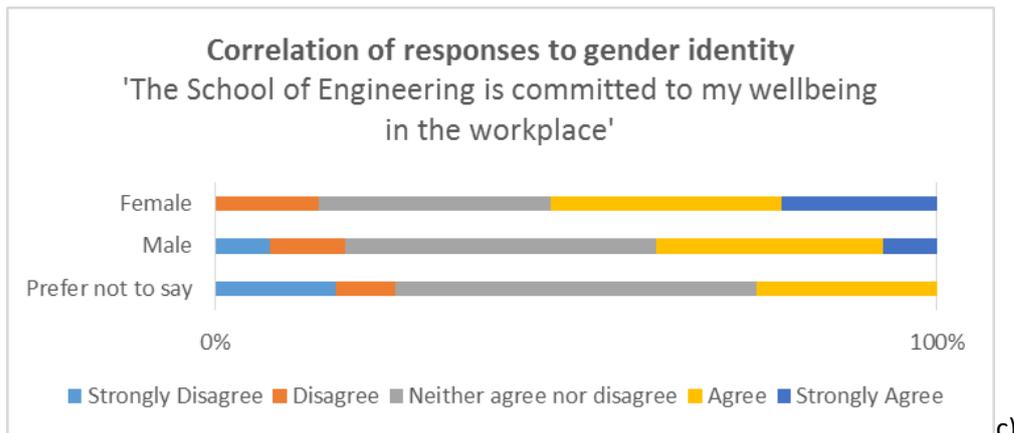
- My work-life balance is good;
- The School of Engineering is committed to my wellbeing in the workplace;
- Career progression opportunities within the School are transparent and inclusive;
- I am pleased with the career advancement opportunities available to me.

Participants were also asked to provide their gender, ethnicity and any further comments they wished to add. All of the questions were optional.

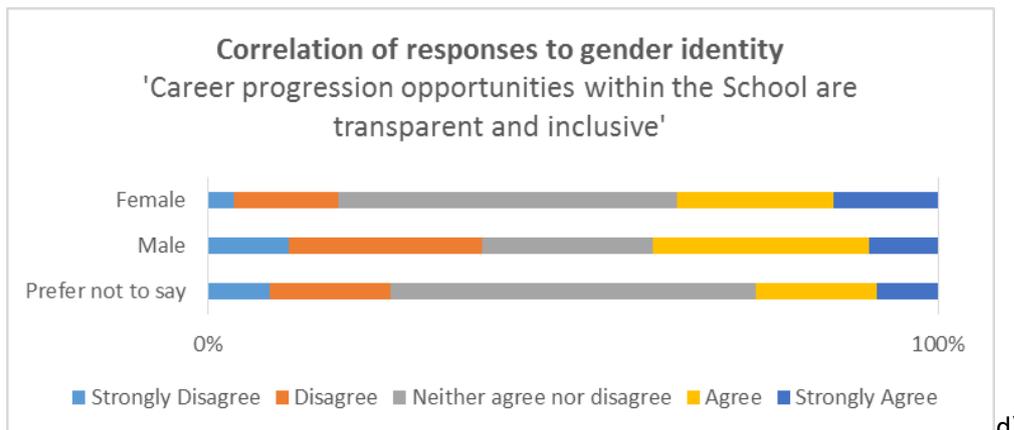
The survey was open for two weeks, from 8 - 22 March 2019. From a total of 355 staff members, 107 responses were received, approximately 30% of those invited to complete the survey. The responses were used to inform the Athena SWAN submission and action plan.

The results are shown in Figure 20.

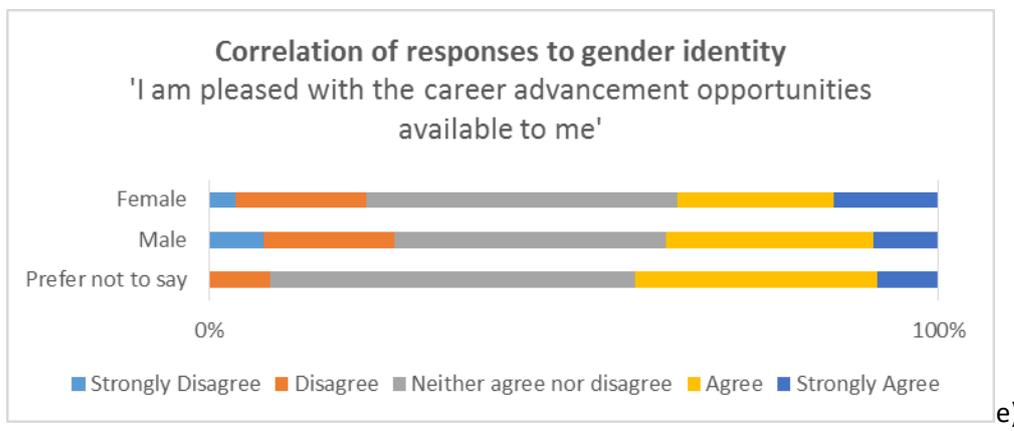




c)



d)



e)

Figure 20. Results of staff survey. a) The School of Engineering provides an inclusive and supportive working environment; b) My work-life balance is good; c) The School of Engineering is committed to my wellbeing in the workplace; d) Career progression opportunities within the School are transparent and inclusive; e) I am pleased with the career advancement opportunities available to me.

The staff survey in March 2019 indicated that around 15% of staff disagreed or strongly disagreed with the question “The SoE provides an inclusive and supportive working environment” and this is a priority to improve [Action 2].

Informal student/staff collegiality is underpinned by formal mechanisms, for instance: strong and gender-balanced student representation on many committees. The School also has active, longstanding student societies, organising events, sports, etc. The

gender profile of its officers is naturally variable, but we are pleased to report that several females have led societies in recent years including UBRacing and UBEco Racing.

The overall student perception of gender dynamics on the programmes was reviewed during the June 2019 UG academics reviews. Examples of concerning feedback from female students were:

- Unwanted male attention;
- Workload imbalance on female students during group work;
- Exclusion, dismissal and rejection;
- Derogatory comments including those via social media platforms.

There is a requirement to uphold a more professional working environment between male and female students [**Action 4**]. In this action we will:

- Design an equality and diversity training session to be held for all new students during induction at Welcome Week; this will also cover professional behaviour, sexual harassment and unconscious bias;
- Ensure equality and diversity in engineering is embedded into the suite of Integrated Design Project modules which run in years 1, 2 and 3;
- Encourage female students to create a new Women in Engineering Society that promotes women in engineering, but also enables them to have a safe space to discuss issues and concerns;
- Develop a Student-Student communication policy, including the use of Social Media;
- Ensure that project groups are gender balanced;
- Ensure that all female students are aware that any unacceptable behaviour should be reported and this can be done confidentially through the Wellbeing Officers.

This action will be judged successful if future student Surveys on equality and diversity to show that at least 90% of female students strongly agree or agree that “The School of Engineering provides an inclusive and supportive studying environment”.

Connected with the experience of our female undergraduate students we need to improve the Personal Tutorial System for female undergraduate to support them more [**Action 11**]. In this action we will:

- Ensure that all new female students are contacted prior to joining the university to see if they have a preference for the gender of their personal tutor;
- Ensure that all academic staff undergo personal tutor training to ensure they have a full understanding of the support needed by female undergraduate students.

This action will be judged successful if by November 2020 female students have the Personal Tutor they want and they feel fully supported through the Personal Tutorial system.

We have recently undertaken a review of images around the School buildings and have made major changes to promote gender balance. Similar actions have been taken with respect to our virtual presence on the web. Each member of staff is required to review their contributions on EDI in their annual PDRs, with results monitored and analysed by the HoS/E and D committee and fed into the School strategy. Additionally, we undertake regular annual surveys with different groups of students to get their views on

the gender inclusivity of the School. We plan to measure progress by conducting staff and student surveys annually [Action 12]. In this action we will:

- Undertake an annual inclusivity survey to be sent to all staff;
- Undertake an annual inclusivity survey to be sent to all students and postdoctoral researchers.

This action will be judged successful if all metrics have at least 90% of female staff agreeing or strongly agreeing by the 2022 survey.

(ii) HR policies

The Senior Management Team implements and reviews the University’s HR policies on employment and procedures, pay and reward schemes, equality and diversity, and voluntary staff benefits. The SMT reports to the central HR office data such as recruitment, staff numbers and pay, and checks the consistency of the procedures adopted. These data sets are used internally for planning and externally for national benchmarking and league tables.

The School EDI committee has representatives from academic staff, professional services, postgraduate researchers and students. The committee is continuously reviewed to ensure a good representation and balance of the different categories. Student representatives are drawn from across the range of students in the School. Their main role is to discuss and pass on to the SAT any general problems students perceive with our policies and procedures as regards EDI and to feedback information to the student body. We have extended this by involving also PG and research students. We take these issues very seriously and we want to set up a plan to formally address unacceptable behaviour, as explained in the action below. In addition, we strongly subscribe to the “Not On” anti-sexual-harassment campaign at UoB, which aims to create an inclusive and welcoming university community that is free from harassment.

(iii) Representation of men and women on committees

The School operates several committees (Table 5). All staff are invited to the School Forum. For other committees membership arises from a combination of ex officio memberships (e.g. Heads of Departments, Education, Director of Research & Knowledge Transfer, Head of Admissions, Health & Safety Coordinator, Equality & Diversity Coordinator being on the School Committee) and appointments by the HoS.

We acknowledge that the appointment to most of the roles has not been transparent and many of the roles are not time limited. This could be seen as a barrier to career progression for female colleagues as most of the senior roles are taken by male staff. Moving forward we will ensure that each committee role has a transparent appointment process and that all roles are time-limited [Action 3d].

Table 5. Staff committee membership by gender 2019

Committee	Academic staff			Professional Services		
	Females	Males	% Female	Females	Males	% Female
Senior Management Team	1	6	14.3%	0	1	0%
School Committee	3	10	24%	3	3	50%

Research Committee	3	6	33%	0	1	0%
Education Committee	3	26	10%	4	4	50%
Health and Safety Committee	0	9	0%	3	5	38%
EDI Committee	5	2	71%	4	2	67%
School Forum	30	150	17%	32	37	46%

All our committees include women and their proportion is commensurate to the number of female staff. We believe that by recruiting more female staff we will have a greater representation of women on each committee. We do not select members of the committee based on gender, but members are selected according to their roles and responsibilities relevant to the committee and their interests. The Chairs of the EDI committee are included in the School Committee to represent EDI issues.

The School has 10 External Examiners (3 females) for its undergraduate and taught postgraduate programmes. We feel that it is possible to have gender balance for external examiners [**Action 10**]. In this action we will review the gender balance of external examiners annually, and when an external examiner completes their four-year term the gender of new appointments should be considered towards increasing female representation. This action will be judged successful if by 2023 50% of external examiners for taught programmes will be female.

Overload dangers are mitigated by the collaborative and considerate nature of the administrative role assignment process through the School Work Recognition Model. The School is particularly concerned to avoid overloading female staff. In addition, the School believes that all staff should be aware of and play an active role in EDI development. In this respect several male staff are already involved both in the School SAT and on EDI Committees at College and University levels. This acts as a development opportunity for junior staff, ensures research staff are involved in decision making and a larger pool of potential female committee members, while protecting senior female members of staff from 'committee overload'.

The School also operates three Industrial Advisory Boards for Civil Engineering, Electrical, Electronic & Systems Engineering and Mechanical Engineering. These Boards comprise UoB staff and external industrialists. The female representation among industrialists is poor and we believe that it is possible to have gender balance for industrialists on the Boards to increase the visibility of female role models and ensure more gender balanced discussion. [**Action 9**]. In this action we will review gender balance of industrialists on Departmental Industrial Advisory Boards annually and refresh membership (posts will be fixed term). This action will be judged successful if by 2022 50% of industrialists on the Departmental Industrial Advisory Boards are female.

(iv) Participation on influential external committees

Academic staff are supported and encouraged by the Senior Management Team to participate in influential external committees and, when appropriate, they are directly recommended by senior colleagues. Female staff are actively encouraged and supported when they wish to undertake key roles in the wider University and beyond. The majority of our female staff are very active in this sense, so we do not see a need

for action to encourage women to participate further. Some examples of activity are as follows.

Professor Marina Gashinova has been a star performer in terms of world-leading publications in various radio communication modelling areas and has established a significant research portfolio in this area. She is a member of THz advisory board at the University of Birmingham, taking active part in steering 3 major grants on THz sensors and electronics. She is actively involved in the organisation of IET/IEEE Radar conferences and International Radar Symposium, serving as session chair and giving a number of invited talks. She is UK representative of NATO SET 196 and 195, which include nine EU member states and 3 overseas associated members. She is an invited reviewer for applications to the Royal Society and part of the prioritisation panel of EPSRC.

Professor Nicole Metje has built up an internationally leading group on infrastructure monitoring and is currently Head of the Power and Infrastructure Research group. She has a key role within the Institution of Civil Engineers, sitting on the Municipal Expert Panel and Geospatial Engineering Panel. She also sits on the editorial board of the ICE Municipal Engineer Proceedings and she is a member of the advisory panels for the BSI Steering Committee for PAS128 (2012-2014) and BSI Steering Committee for PAS256 (2016). She is an EPSRC Associate Peer Review College Member.

Following encouragement from her Head of Department Dr Aziza Mahomed (Lecturer) has recently applied and been successfully nominated to join the Academic Standards Panel of the Institution of Mechanical Engineers which has responsibility for undertaking accreditation visits to universities. Dr Naomi Green has recently been appointed as the Midland Cluster Coordinator for the Women's Engineering Society (WES).

(v) Workload model

The School has a Work Recognition Model for academic staff that takes into account key aspects of teaching, research and leadership. Each task has a points allocation. The allocation of roles and tasks is managed by the Senior Management Team. This is reviewed and updated annually and monitored for any gender bias. This year in March 2019 the Senior Management Team had an Away Day specifically to review the Work Recognition Model. A draft model was released to staff for comment and corrections of fact made before the model was finalised. There is generally very little feedback from staff as the model is transparent. There has never been any feedback from female staff thinking they had been unfairly allocated a task.

Activities such as EDI, outreach, welfare, other student support, and admissions work are all highly valued and appropriately considered during Performance Development Reviews and promotions. For example, the School's EDI and Athena SWAN Leads are formally recognised in the Work Recognition Model, equivalent to other key management roles in the School.

However, the staff survey in March 2019 showed that 30% of staff disagreed or strongly disagreed with the question "My work-life balance is good". Unclear staff-student communication policies have highlighted as a source of excessive workload for staff, this is targeted in **[Action 1]**.

(vi) Timing of departmental meetings and social gatherings

The core hours of the School are generally scheduled between 09:00 and 17:00 and they are used for all seminars and committee meetings. However, the University teaching hours are between 09:00 and 19:00. We recognise that the timings of some meetings are not flexible and we will develop a culture of accessible meetings which promotes flexible timings and digital communication technologies and look to make core hours between 10:00 and 16:00 [Action 1c]. The School embraces fully the flexible culture of work of the University and staff do not have to be on site during core hours if not required for meetings, teaching or other duties.

It is impossible to confine lecturing to core hours as lectures are timetabled centrally. Staff are able to ask for special timings or changes to proposed timings to fit around family and caring responsibilities. However, final timetables are not released until September each year and this process can affect female staff as it leaves little time to arrange out of work responsibilities; this will be addressed [Action 1f].

Social events organised by the School such as a Christmas celebration and student welcome events are scheduled within core hours. Additional School gatherings, like the annual dinner, are sometimes scheduled outside core hours, but are advertised to staff well in advance.

(vii) Visibility of role models

In order to promote an inclusive culture for all staff, the School organises a range of social activities and research seminars. The School does not have a formal mechanism in place to guarantee gender balance of speakers and there is currently an underrepresentation of women as speakers on the seminars organised by the School. Therefore, we plan to include an action to encourage academic members of staff to invite a female speaker if appropriate [Action 13]. In this action we will review the gender of speakers for School research seminars and ask for more nominations of female speakers. This action will be judged successful if by 2020 at least 30% of speakers at research seminars are female.

We will also increase the visibility of female role models both internally within the SoE and create opportunities to meet female role models externally [Action 15]. In this action we will:

- Annually review the membership of the School Senior Management team to ensure there is female representation - judged successful if by 2020 the School Senior Management team will have at least 2 permanent female members;
- Celebrate International Women's Day with an event for female speaker to discuss their career in engineering - judged successful if there is good Attendance of at least 50 people at the event;
- Encourage more female members of the Women's Engineering Society (WES) and look to host events at the University of Birmingham around careers - judged successful if by 2022 female membership will include 80% of female academics and researchers. Host one event annually by 2021.

We will continue to review our web and social media presence to ensure a diverse representation of staff and students, and ensure visibility of role models to students considering applying for an Engineering programme of study. We seek feedback on the gender balance of our offer-holder visit days through a specific survey question, with 95.6% of guests feeling that there was an appropriate gender balance at the 2018/19

events, and will continue to ensure our recruitment and conversion activity is inclusive [Action 6].

An excellent recent event in the School was a series of talks on International Women's Day 2019 from academics and industrialists who talked about their careers in engineering (Figure 21). We will run this event annually so that staff and students continue to see female role models discussing the challenges and successes of their careers in engineering [Action 15b]. On Women in Engineering Day 2019, the School held a Wikithon training session to promote the visibility of notable female engineers on Wikipedia.

The School has recently been successful with an application to the Royal Academy of Engineering for 2 Visiting Professors in Equality and Diversity in Mechanical Engineering. Dr Adrienne Houston and Dr Donka Novovic will play crucial roles in being visible role models to our female staff and students.



Figure 21. Speakers on International Women's Day in March 2019.

(viii)

(ix) Outreach activities

Outreach activities are of great importance to the School in order to challenge preconceptions about STEM and positively encouraging girls to consider a career in engineering. In 2018-2019 the School ran just under 50 outreach activities, reaching roughly 3000 children. The College of EPS organises large scale events during the academic year for a range of year groups, including a Girls in STEM day for Year 9 girls only. The School provides an interactive workshop for each engineering discipline for these events. The School has also taken part in the Big Bang Fair, the 88 Pianists project, the Engineering Education Scheme, the First Lego League, and school visits and mentoring schemes.

One of the EPS events is Discovery Day, for Year 10 students to explore all the STEM subjects on offer at UoB and last year the gender balance was roughly 50/50. In contrast 83% of the attendees for the Engineering Taster Day for Year 12 students were male. Presumably because after GCSE there is a significant drop in girls studying physics and a lack of interest in studying engineering. We need to do more to encourage girls to

attend our events for ages 16+. The School does not require physics A-Level to study our engineering courses, which is unusual and could open up opportunities for girls who have not chosen physics. We should make more of this fact in our marketing for outreach and undergraduate courses.

Last year we ran Daughters of Invention, a project funded by the Royal Academy of Engineering Ingenious fund (Figure 22). We collaborated with local Theatre in Education Company, The Play House, to deliver workshops in primary schools, which used drama to introduce biomedical engineering. They had to develop a medical device to fix the femur bone of a female footballer due to play in the world cup.



Figure 22. Daughters of Invention event.

Following the event a female year 4 MEng Mechanical Engineering student commented “My confidence grew over the weeks which made me comfortable enough to tell my engineering story confidently and naturally. It was nice to know that my story could potentially encourage or inspire someone.” Further details are shown on the following video:

<https://www.youtube.com/watch?v=vqBldthbRmc>

The School needs to hold better data on the outreach undertaken by its staff and students, and also to better evaluate those events to understand if they have made any impact on the children attending. To further enhance our outreach activities we will annually apply funding for a public engagement project to encourage females into engineering [Action 6g].

Words: 6037

6. FURTHER INFORMATION

Previous applications

The School has previously been unsuccessful with two Athena SWAN applications. Based on the feedback from Athena SWAN and Senior Management in the University the School has refreshed the leadership for this current Athena SWAN application. In particular we have taken our time to find out what staff and students actually think

about the School of Engineering and what the issues are that need to be addressed. The action plan has been completely revised to ensure that all actions are SMART.

New School of Engineering Building

The School is currently split mainly across two buildings on either side of the campus, which creates issues for our sense of community and joint working. A new SoE Building is currently being built that will house all staff and this will open in the summer of 2020. The building has been designed to offer more flexible working and there will be more space for socialising to create an improved working environment for staff. In addition, it has been designed to foster a positive sense of gender equality as it will include a nursing room and a calm room.

Words: 190

7. ACTION PLAN

The actions are listed in order of priority.

Action number	Objective	Rationale	Action	Timescale	Person Responsible	Measure of success
1	Improve work-life balance for female staff	The staff survey in March 2019 indicated that 35% of female staff (and identify not disclosed) disagreed or strongly disagreed with the question “My work-life balance is good”	a) Include a question during the annual Performance Development Reviews (PDR) to identify staff that require an improved work-life balance and agree person-specific actions to improve	Annually to start with PDRs in June 2020	All PDR reviewers (Head of School/ Heads of Department / Technical Manager/ Operations Manager)	Reduction in female staff (and identity not disclosed) who disagreed or strongly disagreed with the question in the staff survey “My work-life balance is good” to 10% by 2022
			b) Organise more informal School social events where staff can mix. To include termly staff breakfasts, lunches and afternoon teas so that staff can meet depending on their commitments	To start in academic year 2019/2020	School Operations Hub	
			c) Develop a culture of accessible meetings which promotes flexible timings and digital communication technologies, for example more use of Office 365 and Skype for Business; look to make core hours between 10:00 and 16:00	March 2020	Head of School	
			d) Produce a semester calendar of School-focussed dates and events so that staff can synchronise life and work events	September 2020	Operations Manager	

			e) Develop a Staff-Student communication policy to reduce the volume of e-mail	October 2020	Chairs of the School Equality and Diversity Committee / Deputy Heads of Education	
			f) Lobby the University to have teaching timetables available by April each year	October 2020	Head of School	
2	Improve female staff perception on the inclusive and supportive working environment of the School: in terms of an understanding of the behaviour required of all staff, increasing transparency of the inclusive processes that already exist and creating new processes to increase support and inclusivity.	The staff survey in March 2019 indicated that around 10% of female staff (and identify not disclosed) disagreed or strongly disagreed with the question “The School of Engineering provides an inclusive and supportive working environment”	a) Ensure all staff to attend Unconscious Bias Workshop run by People and Organisational Development	All staff to attend Workshop every 2 years. All staff will have attended once by October 2021	Head of School	Reduction in responders identifying as female or who choose not to disclose their gender-identity who disagreed or strongly disagreed with the question “The School of Engineering provides an inclusive and supportive working environment” to 5% by the 2023 staff survey
			b) Ensure all staff to complete the online equality and diversity training	All staff to complete training annually. All staff will have completed by October 2020		
			c) Increase two-way communication between staff and senior management through restructuring format of	To start from January		

			department tea's/school forum	2020		
			d) Fully participate in the EPSRC funded University project "Challenging Different Forms of Bias in Physical Sciences and Engineering Research", this involves a number of interventions such as reverse mentoring, where a junior BAME woman coaches a senior male.	To start from January 2020		
			e) Develop an Active Bystander training programme to empower staff across the SoE to challenge poor behaviour related to an inclusive and supportive working environment	To start from January 2021		
3	Improve the transparency and inclusivity of career progression for female staff in the School of Engineering	The staff survey in March 2019 indicated that 20% of female staff (and identify not disclosed) disagreed or strongly disagreed with the question "Career progression opportunities within the School are transparent and inclusive"	a) Run an annual School workshop for female staff on promotions to explain the promotions process for academic, research and professional services staff	Workshops to start in September 2020 and to be run annually.	Head of School	Reduction in responders identifying as female or who choose not to disclose their gender-identity who disagreed or strongly disagreed with the question "Career progression opportunities within the School are transparent
			b) Publish the membership of the School promotions panels in advance of the deadline for applications	To start in September 2020 and continue annually		
			c) Run an annual School workshop on career opportunities for female contract research staff to promote carrier opportunities and option	Workshops to start in September 2020 and to be run annually.		
			d) Ensure that all Senior Management Team roles and committee roles have a	To start in January		

			transparent appointment process and will be time limited. Women will be actively invited to apply for the roles.	2020 and be ongoing		and inclusive” to 5% by 2022
			e) Invite female staff aiming for promotion to senior levels to be mentored by a member of College Board	To start in September 2020		
			f) Ensure that females are nominated for university leadership programmes such as Emerging Leaders Programme and Senior Leaders Programme	To start in September 2020		
4	Increase awareness of the importance of equality and diversity in engineering amongst undergraduate and postgraduate taught students	There have been a number of incidences reported where female students have felt uncomfortable with the behaviour of male students	a) Design an equality and diversity training session to be held for all new students during induction at Welcome Week; this will also cover professional behaviour, sexual harassment and unconscious bias	Welcome Week in September 2021	Student Experience Officer/College Student Equality Ambassador	All taught students to have an awareness of equality and diversity in engineering. Student Surveys on equality and diversity to show that at least 90% of female students strongly agree or agree that “The School of Engineering provides an inclusive and supportive
			b) Ensure equality and diversity in engineering is embedded into the suite of Integrated Design Project modules which run in years 1, 2 and 3	December 2021	Module coordinators for Integrated Design Project 1, 2 and 3	
			c) Encourage female students to create a new Women in Engineering Society that promotes women in engineering, but also enables them to have a safe space to discuss issues and concerns	March 2020	Student Experience Officer	
			d) Develop a Student-Student communication policy, including the use of Social Media.	October 2020	Chairs of the School Equality and Diversity	

					Committee / Deputy Heads of Education	studying environment”
			e) Ensure that project groups are gender balanced	October 2020	Head of Education	
			f) Ensure that all female students are aware that any unacceptable behaviour should be reported and this can be done confidentially through the Wellbeing Officers	October 2020	Wellbeing Officer	
5	To increase applications from females for academic positions	The School has a low representation of females on the academic staff and receives a very low number of applications from females for advertised academic positions	<p>a) Ensure that all job adverts to have a male and female member of staff to contact for informal enquiries</p> <p>b) Ensure that all job adverts to state that part-time and flexible working is available</p> <p>c) Offer interview expenses to cover up to £200 towards childcare arrangements</p> <p>d) Ensure that all job adverts for academic posts to be sent to at least 10 potential female candidates to encourage them to apply</p> <p>e) Ensure all interview panels include at least one female</p> <p>f) Ensure that all positions are advertised on the Women's Engineering Society (WES) web pages</p> <p>g) Actively promote University of Birmingham Recruitment Campaigns (e.g. Birmingham Fellow, Professorial Fellows) to female engineers</p>	By December 2020	Head of School/ Heads of Department	By 2022 we will have increased applications for academic posts to 20%. By 2023 the number of female academic staff will have increased to 15%

			h) Set-up an Horizon Scanning Group to identify female researchers and female academics that can be targeted for recruitment			
			i) Review adverts and job descriptions to ensure that gendered wording is balanced between feminine- and masculine-coded words.			
6	To increase applications from females for undergraduate programmes	The School has a low representation of females in its undergraduate student population	a) Ensure that at least 30% of student ambassadors to be used on Open Days and Offer Holder Days are female so that prospective female students have role models to engage with	Implemented for Offer Holder Days from January 2020 and Open Days from June 2020	Admissions Team; Departmental; Admissions Tutors	By 2023/24 applications from females for undergraduate programmes will have increased by 15%.
			b) Review marketing literature and web pages to ensure that they fully represent the diverse student population in the School of Engineering	March 2020 and annually	Admissions Team	
			c) Review marketing literature and web pages to ensure that gendered wording is balanced between feminine-masculine-coded words	March 2020 and annually	Admissions Team	
			d) Increase the visibility of subjects, such as Biomedical Engineering, that females have been shown to be drawn to	Implemented for Offer Holder Days from January 2020 and Open Days	Admissions Team; Departmental; Admissions Tutors	

				from June 2020		
			e) Organise an annual Females in Engineering Celebration Day and invite Offer Holders to attend so that engineering opportunities for females can be showcased.	Implemented for Offer Holder Days from January 2021	Admissions Team; Departmental; Admissions Tutors	
			f) Increase the visibility of female staff at Open Days and Offer Holder Days. As most of these events are on Saturdays childcare will be organised on campus.	Implemented from January 2021	Head of School	
			g) Submit an application for funding for public engagement to encourage females into engineering	Annually	Outreach Team	
			h) Organise a number of female only Offer Holder Days so that the day can focus more clearly on the engineering opportunities for females	Implemented for Offer Holder Days from January 2022	Admissions Team; Departmental; Admissions Tutors	
7	To increase applications from females for postgraduate taught programmes	The School has a low representation of females in its postgraduate taught student population	a) Ensure that at least 30% of student ambassadors on Postgraduate Open Days are female so that prospective female students have role models to engage with	Implemented for Open Days from June 2020	Admissions Team; Departmental; Admissions Tutors	By 2023/24 applications from females for postgraduate taught programmes will have increased by 15%.
			b) Review the marketing literature and web pages to ensure that they fully represent the diverse student population in the School of Engineering	March 2020 and annually	Admissions Team	
			c) Review marketing literature and web	March 2020	Admissions	

			pages to ensure that gendered wording is balanced between feminine- and masculine-coded words	and annually	Team	
			d) Organise a number of female only Postgraduate Virtual Open Days so that the day can focus more clearly on the engineering opportunities for females	Implemented for Virtual Open Days from January 2021	Admissions Team; Departmental; Admissions Tutors	
8	Increase support for female research staff to develop an academic career	There is no formal support in place for research staff to develop an academic career outside support from their line manager	a) Ensure that all female Research Fellows are offered the opportunity to have a female mentor (mentors will be across the University) to coach and prepare them for future academic positions b) Offer childcare expenses to enable national and international travel c) Invite all female Research Fellows to meet individually with the SoE female Royal Academy of Engineering Visiting Professors to discuss career plans d) Invite all female Research Fellows to submit CVs to the Head of School/Heads of Department prior to academic jobs being advertised so that feedback is given on CVs and encouragement can be given to apply for the positions	Implemented from September 2020	Head of School/ Heads of Department	Positive feedback from female researchers in their annual Performance Development Review
9	Increase female representation of industrialists on Departmental	There is a need for increased Diversity for Departmental	Review gender balance of industrialists on Departmental Industrial Advisory Boards annually and refresh membership; posts will be fixed term	Refresh of membership annually working	Heads of Department / Industrial Liaison	By 2022 50% of industrialists on the

	Industrial Advisory Boards	Industrial Advisory Boards which will lead to increased female role models for staff and students in the School. This will also increase the School understand of how industry promotes equality and diversity		towards completing the objective by October 2022	Officer	Departmental Industrial Advisory Boards will be female
10	Increase female representation of external examiners for taught programmes	There is a need for increased diversity for external examiners which will lead to increased female role models for staff and students in the School	Review the gender balance of external examiners annually, and when an external examiner completes their four-year term the gender of new appointments should be considered towards increasing female representation	Review external examiners annually working towards completing the objective by October 2023	Heads of Department / Head of Education	By 2023 50% of external examiners for taught programmes will be female
11	Improve the Personal Tutorial system for all female undergraduate students	Some female students do not feel fully supported by Personal Tutors	a) Ensure that all new female students are contacted prior to joining the university to see if they have a preference for the gender of their personal tutor.	To be completed in time for the first academic review of 2020/21 in November	Student Experience Officer	By November 2020 Female students have the Personal Tutor they want and they will feel fully supported

				2020		through the Personal Tutorial system.
			b) Ensure that all academic staff undergo personal tutor training to ensure they have a full understanding of the support needed by female undergraduate students	To be completed by September 2020	Head of School	
12	Measure the progress the School of Engineering is making on improving inclusivity and well being for females through staff and student surveys	The surveys will provide quantitative data to measure the progress of the School	a) Undertake an annual inclusivity survey to be sent to all staff	Survey was first run in March 2019 and will continue annually	Chairs of the School Equality and Diversity Committee/ Operations Projects Officer	All metrics to have at least 90% of female staff agreeing or strongly agreeing by the 2022 survey.
			b) Undertake an annual inclusivity survey to be sent to all students and postdoctoral researchers	Survey will run for the first time in March 2020 and continue annually	Student Experience Officer/ Operations Projects Officer	
13	Increase the number of female speakers at School research seminars	The School started a seminar series in March 2019 and diversity of speakers has not been considered so far	Review the gender of speakers for School research seminars and ask for more nominations of female speakers	To be in place by December 2020	Director of Research/ Research Support Administrator	By 2021 at least 30% of speakers at research seminars will be female
14	To increase applications from females for postgraduate	The School has a low representation of females in its	a) Invite female final year students to research seminars	To be in place by April 2020	Postgraduate Research Lead	By 2023/24 applications from females for
			b) Review web pages and publicity	May 2020	Postgraduate	

	research programmes	postgraduate research student population and receives 68 applications	material to ensure that they reflect the diversity in our research		e Research Admissions Team	postgraduate research study will have increased by 15%.
			c) Review marketing literature and web pages to ensure that gendered wording is balanced between feminine- and masculine-coded words;	May 2020	Postgraduate Research Admissions Team	
			d) Organise a lunch for female final year students to learn about the opportunities to study for a PhD	April 2020	Postgraduate Research Admissions Team	
			e) Interview all current female postgraduate research students to find out what attracted them to their research area and to see if there are lessons that can be used in research areas where females number are low	September 2020	Postgraduate Research Lead	
15	Increase visibility of female role models in the School for staff and students	Lack of role models	a) Annually review the membership of the School Senior Management team to ensure there is female representation	April 2020 and annually	Head of School	By 2020 the School Senior Management team will have at least 2 permanent female members.
			b) Celebrate International Women's Day with an event for female speaker to discuss their career in engineering.	Annually	Student Experience Officer	Good Attendance of at least 50 people at the event
			c) Encourage more female members of the Women's Engineering Society (WES) and look to host events at the	Annually	Student Experience Officer	By 2022 female membership

			University of Birmingham around careers.			will include 80% of female academics and researchers. Host one event annually by 2021.
16	Increase the communication and organisation of maternity/adoption/carer policies for females	Undue pressure and uncertainty on pregnancy members of staff	a) Create a SoE maternity/paternity/partner/adoption/carer policy/menopause for line managers, including: key information (finances, H&S polices) / advice on communication strategies / clear identification of the people responsible for implementation of maternity support / processes for workload management during pregnancy and upon return / processes for transitioning back to full-time work	October 2020	Chairs of the School Equality and Diversity Committee / H&S Manager / Operations Manager / Heads of Department / Head of Education	By 2024 (considering the relative frequency of pregnancy in the SoE) case study examples of pregnant/new parents/returning staff/ carers should report good communication, management and implementation of maternity policies.
			b) Create an SoE "extended leave from research" policy, that outlines how research activities (existing and new) will be covered during the period of absence and effective use and management of KIT days (inline with Action 15)	October 2021	Heads of Department and Director of Research	
			c) Ensure female staff to have a buddy appointed to provide support	October 2020	Heads of Department	
17	Organisation and	Supporting	a) Collate frequency and duration	October	Operations	Accuracy and

	flexibility of partner leave initiatives	partner's during pregnancy/adoption of their partner, encourages equality through relieving the pressure on the pregnant partner.	information on partner leave.	2020	Team	availability of this data.
			b) Use the flexible working policy to allow partners to have paid (as opposed to unpaid) leave for 2 antenatal or adoption appointments. Included in the SoE Maternity/Paternity and Adoption Policy [Action 14].	October 2020	Chairs of the School Equality and Diversity Committee / H&S Manager	Reduction in staff who disagreed or strongly disagreed with the question "The School of Engineering provides an inclusive and supportive working environment" to 5% by the 2023 staff survey
			c) Create an SoE "extended leave from research" policy, that outlines how research activities (existing and new) will be covered during the period of absence and effective use and management of SPILT days (inline with action [14])	October 2021	Heads of Department and Director of Research	By 2025 increase the uptake of SPL to 20%.
18	Ensure that accurate data is collected about staff training	No formal records are kept of staff training	Collect data on staff training so that data can be analysed by gender to ensure there is no bias.	Start in October 2020	Operations Team	By 2022 there is sufficient staff training data for analysis
19	Improve the induction process for	Females can feel very isolated in	a) Ensure that new female staff are offered the opportunity to be in a	Start in August	Head of School/	By 2022 newly appointed

	new female staff	the first few weeks of work in a male-dominated environment	shared office with other female staff	2020	Heads of Department	female staff report greater satisfaction with the induction process and integrate into the School more quickly
b) Ensure that existing staff go for coffee and lunch with new female staff during the first month of appointment						
c) Ensure that new female staff have a weekly meeting with their Head of Department to ensure they are settling into the SoE						