



Athena SWAN Silver department award application

Name of university: University of Cambridge

Department: Department of Engineering

Date of application: November 2016

Date of University Bronze and/or Silver Athena SWAN award: Silver Award September 2013

Contact for application: Dr Claire Barlow

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Departmental website address: <http://www.eng.cam.ac.uk/>

Athena SWAN **Silver Department** awards recognise that in addition to university-wide policies the department is working to promote gender equality and to address challenges particular to the discipline.

Not all institutions use the term 'department' and there are many equivalent academic groupings with different names, sizes and compositions. The definition of a 'department' for SWAN purposes can be found on the Athena SWAN website. If in doubt, contact the Athena SWAN Officer well in advance to check eligibility.

It is essential that the contact person for the application is based in the department.

Sections to be included

At the end of each section state the number of words used. Click [here](#) for additional guidance on completing the template.

Important note on staff data in the submission

A new female lecturer joined the Department after the census date of 31.07.16 and a further female professor has been appointed. The figures and charts throughout the submission do not include these new appointments, so the proportion of academic female staff at the submission date will be better than indicated in the data.

Additional words

On 31 August 2016 the Athena SWAN Team agreed by email to permit the Department to use an extra 500 words to reflect the Department's size (which represents approximately 10% of the University of Cambridge). We have used 379 of these words as follows:

1. Letter of endorsement from the Head of Department:	30 additional words
2. The self-assessment process:	96 additional words
4. Supporting and advancing women's careers:	231 additional words
5. Any other comments:	22 additional words

Abbreviations

BA	Bachelor of Arts
BME	Black and minority ethnic
Comms	Communications
CUER	Cambridge University Eco-Racing Team
CUES	Cambridge University Engineering Society
CUSU	Cambridge University Students' Union
DivAds	Divisional Administrators
DivChs	Divisional Champions
DHoD	Deputy Head of Department
DUE	Director of Undergraduate Education
E&D	Equality & Diversity
EPSRC	Engineering and Physical Sciences Research Council
FTE	Full time equivalent
HESA	Higher Education Statistics Agency
HoD	Head of Department
ICE	Institution of Civil Engineers
MEng	Master of Engineering
MET	Manufacturing Engineering Degree
MPhil	Master of Philosophy
MSt	Master of Studies
MRes	Master of Research
NSS	National Student Survey
PhD	Doctor of Philosophy

PHEP	Pathways in Higher Education Practice (University course for new academic staff)
PI	Principal Investigator
Postdoc	Postdoctoral Research Associate
PPD	Personal and Professional Development
RA	Research Associate
REF	Research Excellence Framework
SAP	Senior Academic Promotions
SAT	Athena SWAN Self-Assessment Team
SMART	Specific, measurable, achievable, realistic, timely
SSJC	Staff Student Joint Committee
SRA	Senior Research Associate
STEMM	Science, technology, engineering, mathematics and medicine
WIE	Women in Engineering
WiSETI	Women in Science, Engineering and Technology Initiative



*Exhibition of shortlisted entries to the Inspirational Women Engineers competition
(for further information see the 'culture' section)*

1. Letter of endorsement from the head of department: maximum 500 words (word count: 530)

An accompanying letter of endorsement from the head of department should explain how the SWAN action plan and activities in the department contribute to the overall department strategy and academic mission.

The letter is an opportunity for the head of department to confirm their support for the application and to endorse and commend any women and STEMM activities that have made a significant contribution to the achievement of the departmental mission.



Dr R. Gilligan
Head of Quality Charters
Equality Challenge Unit
First Floor, Westminster Tower
3 Albert Embankment
London SE1 7SP

Dear Dr Gilligan,

I am delighted to support our Athena SWAN Silver Application and am fully committed to engendering a culture in which all members of our Department feel valued, respected and supported.

My vision is for a united, inclusive Department. The Athena SWAN Charter is a framework for fulfilling this vision by celebrating the different experiences and skills that our staff and students bring to the Department and empowering them to fulfil their potential as the *21st century engineers* of the Department's strategic mission. This is particularly pertinent as we enter an exciting period of change in anticipation of the Department's move to a new site. We intend to use this as an opportunity to increase collaboration and break down silos. Our new research strategy reflects this ethos by drawing on strengths from across the Department to address some of the major challenges facing society.

Early in my term as Head of Department I ran a staff survey to gauge satisfaction in the Department, in terms of working environment, support and communication etc. Analysis of the results by gender and staff type has enabled us to identify and address priorities. We have taken action to address these areas and have already seen significant progress. For example, our proactive process for recruiting women academic staff has resulted in the appointment of four new female lecturers and a female professor in the last six months, which is highly significant given the low proportion of academic women engineers in the sector. Improving the experience of our researchers is another challenging area where we have made progress by introducing a scheme whereby every new researcher is allocated a trained mentor. This is important as we expect the research community to be the Department's largest growth area over the next 10 years.

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I am pleased to report that staff and students have commented that the departmental culture is becoming increasingly collegial. Department members are very engaged with this process of improving the working environment for all, as evidenced by the 92% response rate to the staff survey and the radical improvement in the E&D training completion rates (rising from 17% academic staff in September 2015 to c.100% in February 2016).

As Chair of the SAT my aim is for the Department to champion the equalities agenda in STEMM and particularly to raise the profile of women engineers. We have had extremely positive feedback on our WiE Initiative, which is now an established network for discussion and training across the Department. We are also active in raising the public consciousness of engineering as a fascinating and diverse career for women through our outreach activities and by celebrating the achievements of women engineers.

Despite the evidence of progress and our strong student numbers we are not complacent about the challenges ahead. All members of the SAT, which now includes an academic champion for each Division, are dedicated to implementing our comprehensive action plan. This plan builds on the work undertaken for the Bronze submission and identifies specific actions to address each priority area.

Finally, I confirm that the submission gives an honest and accurate representation of the Department.

Yours sincerely,



Professor David Cardwell
Head of Department

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2. The self-assessment process: maximum 1000 words (word count: 1096)

Describe the self-assessment process. This should include:

- a) A description of the self assessment team: members' roles (both within the department and as part of the team) and their experiences of work-life balance

The SAT's 18 members (12 women and 6 men) have a wide range of career experiences, caring responsibilities and work-life balances. Since 2015 its membership has included student representatives and academic Champions for each Division.

SAT member	Role and relevant experience
Dr Claire Barlow	<ul style="list-style-type: none"> • University Senior Lecturer and Deputy Head of Department (Teaching). • Deputy Chair of the SAT. • Chaired working groups on the experience of female students.
Ms Camille Bilger	<ul style="list-style-type: none"> • PhD student and Amelia Earhart Fellow. • Acting Chair of the HeForShe Cambridge Society. • Liaises with CUSU Womens' Officer and the University's Gender Equality Network.
Professor David Cardwell	<ul style="list-style-type: none"> • Head of Department and Chair of the SAT. • Experienced in balancing work/life commitments, including two grown-up children and travelling for work. • Advocate of equality across the Department.
Mr Talay Cheema	<ul style="list-style-type: none"> • Undergraduate student. • CUES' Diversity Officer.
Mrs Sally Collins-Taylor	<ul style="list-style-type: none"> • Secretary of the Department (Administration and HR).
Dr Pieter Desnerck	<ul style="list-style-type: none"> • Postdoctoral Research Associate. • Chair of the Department's Postdoc Committee. • Vice-Chair of the University's Postdoc Committee Chair Network.
Dr Miriam Lynn	<ul style="list-style-type: none"> • E&D Consultant assigned to support the School of Technology and its departments.
Dr Sue Jackson	<ul style="list-style-type: none"> • Researcher Development Programme Coordinator. • Chartered Engineer and qualified Coach, workshop designer and facilitator. • Completed a Daphne Jackson Research Fellowship for 'women returners to work'.
Dr Hannah Joyce	<ul style="list-style-type: none"> • University Lecturer whose research group is c.50% women. • Division B Champion. • Married to another researcher and expecting first child.
Dr Alexandre Kabla	<ul style="list-style-type: none"> • University Senior Lecturer and Director of Undergraduate Education. • Dual career family with one young child.

SAT member	Role and relevant experience
Dr Kate Knill	<ul style="list-style-type: none"> • Senior Research Associate with industry background. • Division F Champion. • Works flexibly while caring for her parents. • Experienced at developing women engineers and managing work-life balance in international teams.
Dr Athina Markaki	<ul style="list-style-type: none"> • Lecturer whose research group is 71% women. • Division C Champion. • Worked part-time during a period of graduated return after maternity leave. • Member of the University's Silver Award SAT in 2014.
Ms Madeline McKerchar	<ul style="list-style-type: none"> • Secretary to the SAT. • Working part-time following maternity leave.
Dr Tim Minshall	<ul style="list-style-type: none"> • Reader. • Division E and School Gender Champion. • Helps run the WiE Forum and is active in schools outreach. • Dual career family with two teenage children.
Dr Alice Moncaster	<ul style="list-style-type: none"> • Lecturer and Deputy Director of a taught Masters course. • Division D Champion. • Background in engineering consultancy, including working part-time while caring for her daughters. • Researches into the careers of women engineers with the ICE.
Dr Rasha Rezk	<ul style="list-style-type: none"> • Postdoctoral Research Associate. • Member of Robogals, a society aiming to increase diversity in engineering by taking robotics workshops into schools. • Extensive experience in organising sports and social activities for women.
Dr Jenni Sidey	<ul style="list-style-type: none"> • Newly appointed University Lecturer. • Founding member of Cambridge Robogals.
Dr Andy Wheeler	<ul style="list-style-type: none"> • University Lecturer and EPSRC Fellow. • Division A Champion. • Dual career family with two small children.

Table 1. Roles and relevant experience of the SAT members

- b) an account of the self assessment process: details of the self assessment team meetings, including any consultation with staff or individuals outside of the university, and how these have fed into the submission

SAT remit and communication

The SAT meets at least quarterly to:

- track progress on its action plan;
- discuss and act upon relevant feedback and data;
- plan initiatives to further improve the Department's working environment and culture.

The Head of Department is the Athena SWAN Departmental Champion and Chair of the SAT. He is committed to ensuring that the Department is an inclusive place to work and study and

has sought to engage all Department members with this endeavour, updating them on progress through presentations, emails and newsletter articles plus regular reports to the Department's committees.

Each SAT member has responsibility for the sections of the submission most relevant to their experience, although the SAT has collective responsibility for the final version.

Divisional Champions

The Department has six academic Divisions, each of which is the size of a small-medium department.¹ In accordance with our Bronze action plan, each Division has a Champion (four female and two male), who act as conduits for communication between staff in Divisions and the SAT. They have had a significant impact on the awareness and engagement of academic staff with the initiative, enabling us to drive change more effectively. For example, the E&D training completion rate for academic staff rose from 17% in September 2015 to c.100% in February 2016 following intervention by the Champions (supported by the Heads of Division and Department).

Departmental consultation

The submission and ongoing action plan have been heavily informed by the results of the 2015 staff survey. The response rate was 92%, providing valuable benchmark data against which to measure progress.² The SAT used analysis of the results by occupation and gender to identify areas of concern and to prioritise actions (see section 5 for a commentary on the results). Follow-up has included focus groups to explore particular concerns such as support for researchers. Each Division has also held meetings to discuss the results and identify actions.

The survey found that just 60% of academic women were satisfied with their working environment, 50% felt that they had sufficient support and 39% of women researchers felt properly consulted about changes to their roles. In response the SAT has launched a consultation with academic and research staff about their working environment. The resulting Divisional action plans will inform the SAT action plan and identify good practice that can be shared across the Department. [A.3.2]

The ongoing development of the WiE initiative is informed by regular feedback from WiE Forum members (all female members of the Department plus other WiE event attendees) to ensure that it remains relevant. [A.1.2 & A.1.5]

"I think this is an excellent (and urgent) initiative so thank you for organising it."

Lecturer (male)

Other contacts

The SAT works closely with the University's E&D team and liaises with contacts in cognate departments and universities to share good practice and ideas for tackling common challenges such as recruiting and retaining women.

¹ See Table 2 for further details of the Divisions.

² 93% of the 650 respondents declared their gender, of which 27% were women.

SAT members also attend national events such as UCL's Inclusive Engineering Education Symposium to participate in the national debate, as well as drawing upon benchmarking data provided by the Royal Academy of Engineering and HESA.

The SAT publicises HeForShe events and plans to pilot its initiatives as the Cambridge campaign develops, since its aim of engaging men as agents of change to achieve gender equality is extremely pertinent to the Department. [A.1.9]

- c) Plans for the future of the self assessment team, such as how often the team will continue to meet, any reporting mechanisms and in particular how the self assessment team intends to monitor implementation of the action plan.

The SAT will meet at least quarterly to further develop its action plan, evaluate the impact of these actions and revise the plan accordingly. Re-running the staff survey in 2018 and analysing the annual gender data reports will be the primary means of evaluating impact. The Chair will report on progress to departmental meetings and via Divisional Champions. [A.2.1 & A.2.4]

We will stagger the introduction of a standard term for SAT members to increase the number of staff who have a strong awareness of, and commitment to, the inclusion agenda and to introduce fresh ideas. We shall also include representatives for the technical and professional services. [A.2.2]

3. A picture of the department: maximum 2000 words (word count: 1994)

- a) Provide a pen-picture of the department to set the context for the application, outlining in particular any significant and relevant features.

Overview

The Department is the largest integrated engineering department in the UK, representing approximately 10% of the University of Cambridge's academic activity. It has:

- 154 academic staff (11% female)
- 316 researchers (23% female)
- 284 support staff (43% female)
- c.1,200 undergraduate students (24% female)
- >900 postgraduate students (29% female on taught courses, 23% female on research master courses and 27% female PhD students).

The Department benefits from the University's collegiate structure whereby the 31 Colleges provide accommodation, pastoral care and small group teaching for students; most academic staff are College Fellows.

The Department currently has sites in central and west Cambridge (for a map see section 5), but within 10-15 years will move fully to west Cambridge – an exciting opportunity to unite the Department. The architects have been asked to create a design which promotes inclusivity and collegiality, with an increased sense of unity across all levels and Divisions. The recent refurbishment of the Library and the new Dyson Centre for Engineering Design provides a

template as the creation of collaborative working spaces has transformed how students work, breaking down silos and fostering a strong community spirit. [A.4.7]

“The new Library and Dyson Centre are excellent additions to the Department. There's a nice balance for all people – whether they want to work in silence, in groups, or just chat with friends.”

Undergraduate student (female)



New, less formal working spaces in the Library



Students in the Library



Lego ‘BLOC-Soc’ meeting in the Dyson Centre for Engineering Design

Structure

Staff are assigned to the appropriate Division on appointment so that line management is clear. In addition, the Department has four strategic research themes supporting cross-Divisional collaborations.

Head of Department			
Council (Membership includes the Academic Committee, plus representatives from the Services Divisions, researchers and West Cambridge)	Academic Divisions	Division A – Energy, Fluid Mechanics and Turbomachinery 12/109 female researchers and academics (11%)	Academic Committee (Membership includes the Senior Management Team and Heads of Division)
		Division B – Electrical Engineering 21/149 female researchers and academics (14%)	
		Division C – Mechanics, Materials and Design 19/113 female researchers and academics (17%)	
		Division D – Civil Engineering 15/77 female researchers and academics (19%)	
		Division E – Manufacturing and Management 47/159 female researchers and academics (30%)	
		Division F – Information Engineering 13/100 female researchers and academics (13%)	
	Services Divisions	Division V – HR Office, Research Office, Graduate Studies Office, Teaching Office, Finance and Purchasing Office, Library	
		Division S – IT Services	
		Division W – Design and Technical Services	

Table 2. Organisational structure

Undergraduates

The Department runs two undergraduate courses leading to the BA and MEng degrees.

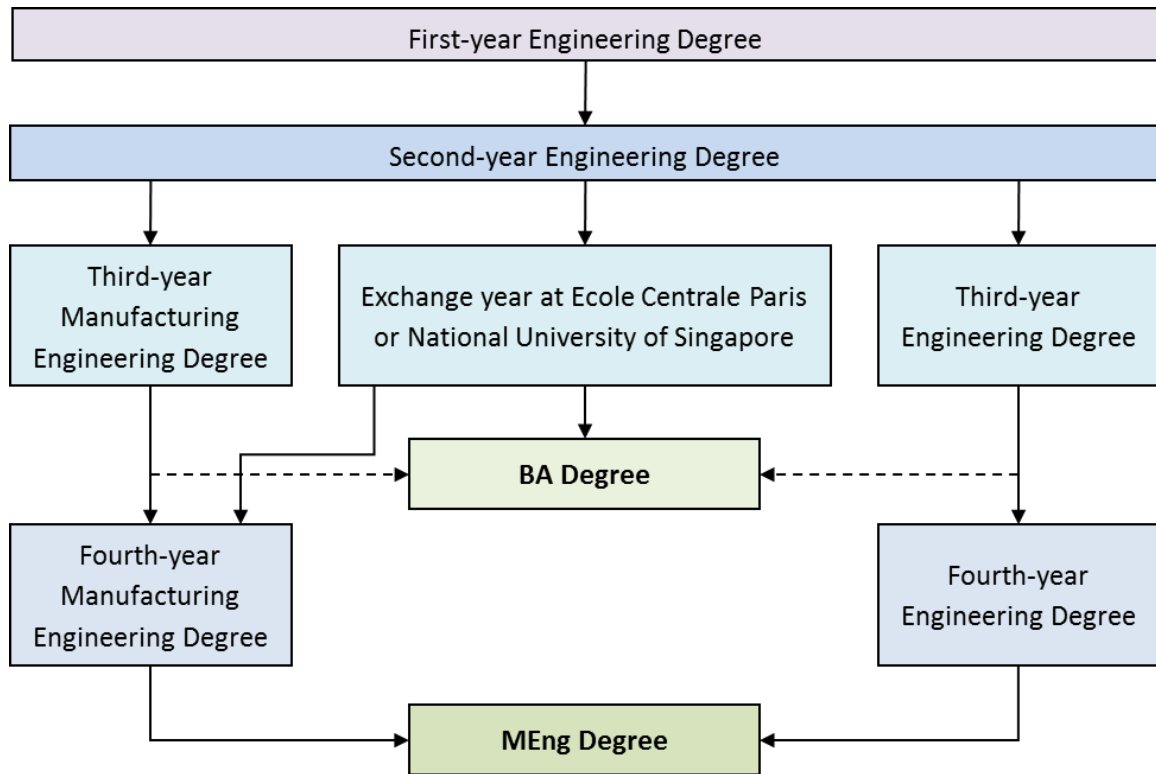


Figure 1. Overview of undergraduate degree course

All students follow the same course, covering the main branches of engineering, for the first two years. They then concentrate on their chosen branch of engineering within the Engineering Degree or take the Manufacturing Engineering Degree.

First and second year undergraduates are lectured by women in a number of subjects to maximise contact and inspire our female students to aim high without overloading women lecturers. [A.6.6]

Postgraduate teaching

The Department offers taught graduate courses (MPhil and MSt) and research degrees (PhD, MPhil and MRes). The Department provides an integrated educational framework that goes beyond the specific field of study, aiming to build transferable skills in communication, teamwork and ethics.

Researchers

Researchers are projected to be the Department's biggest growth area so the Department is investing considerable effort in strengthening the sense of community among researchers (see 'support for staff at key career transition points'). [A.7.1-9]

b) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

Student data

(i) **Numbers of males and females on access or foundation courses** – comment on the data and describe any initiatives taken to attract women to the courses.

N/A

(ii) **Undergraduate male and female numbers** – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the impact to date. Comment upon any plans for the future.

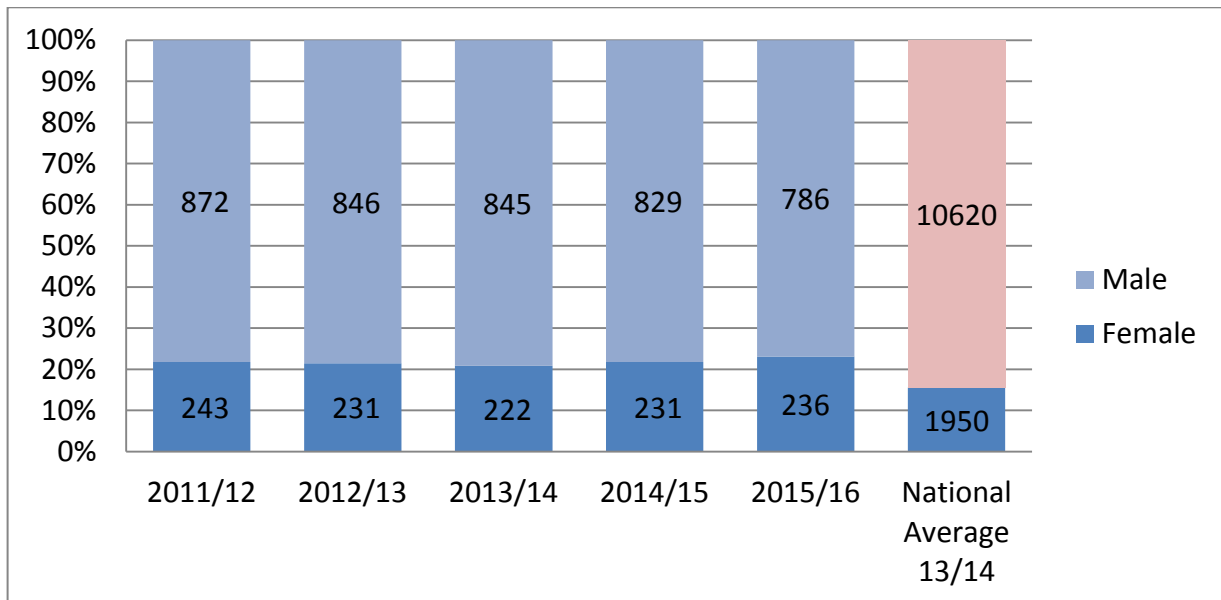


Figure 2: Undergraduate numbers by gender 2011–15

In accordance with our Bronze plan, the proportion of female undergraduates has continued to be consistently above the national average for engineering (24% compared to 16%).³

However, the Department is not complacent about its undergraduate gender ratio and is implementing the following actions in response to feedback from focus groups with female undergraduates: [A.6.1 & A.6.2]

- developing a student ambassador scheme for engineering students to engage with schools to demonstrate to potential applicants and their advisers that women do succeed in engineering. The scheme will be aimed at Year 9-11 students so that they can make appropriate GCSE and A-Level choices. This scheme complements the more general College and CUSU schemes, recognising it is hard for non-engineers to represent engineering effectively; [A.5.3]

³ HESA data from 2013/14 is used as the benchmark for the national average throughout the submission.

- delegating talks at outreach events and student conferences to young female and/or BME staff to counter outdated perceptions of engineering; [A.5.4]
- inviting the Physics Teacher Network’s East of England branch to see our facilities and meet some of our female undergraduates to encourage Physics teachers to promote engineering as a career to female students; [A.5.5]
- reviewing our admissions material to ensure that women feature prominently in images and case studies; [A.1.8 & A.6.4]
- ensuring that there is a strong WiE presence at Open Days. [A.6.3]

SAT initiatives for raising awareness of the achievements of women engineers to inspire potential female applicants are discussed under ‘culture’.

(iii) **Postgraduate male and female numbers completing taught courses** – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.

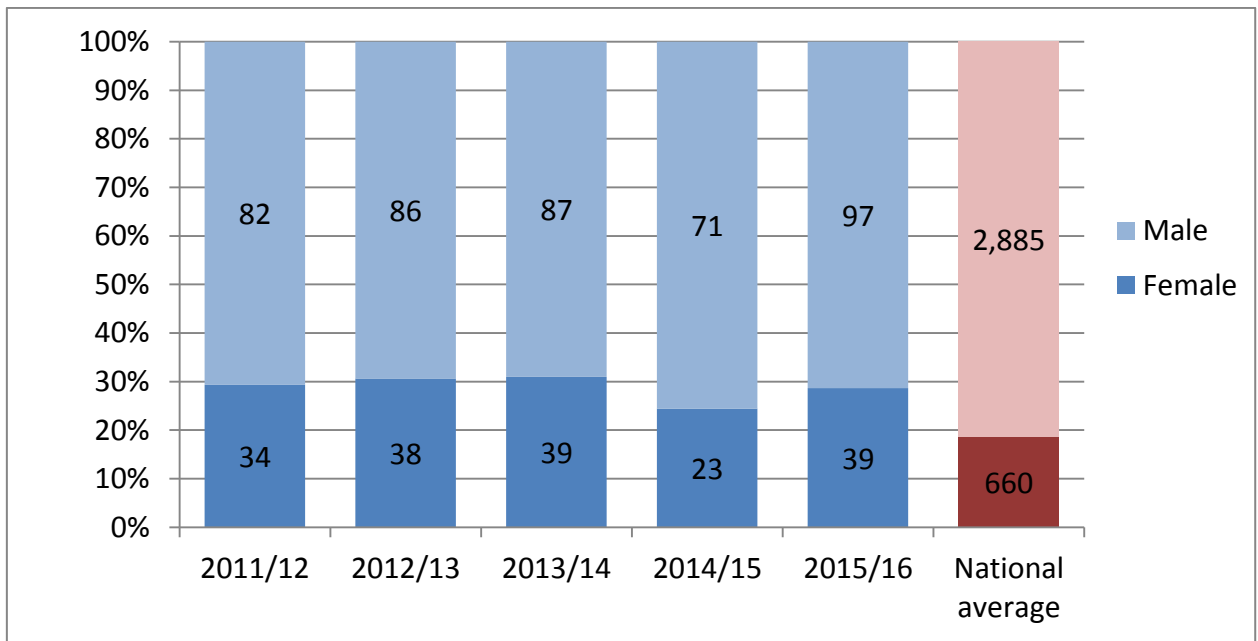


Figure 3: Taught Masters student numbers by gender 2011–2015

Figure 3 shows that the proportion of female taught Masters students decreased in 2014/15, but recovered in 2015/16 (to 29%, 10% higher than the national average for engineering taught graduate courses). No cause for the decrease has been identified so it may be an anomaly: if it recurs the Department will investigate further.

The proportion of women on taught Masters courses ranges from 50% on the MPhil in Engineering to 12% on the MPhil in Machine Learning, Speech and Language Technology. In 2015/16 all taught Masters students were full-time.

A new forum for graduate Course Directors encourages the sharing of good practice and ideas, which could help to increase the proportion of women across all courses. The initiatives

described in the 'undergraduate numbers' and 'culture' sections are also designed to increase the proportion of women graduate students.

- (iv) **Postgraduate male and female numbers on research degrees – full and part-time –** comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.

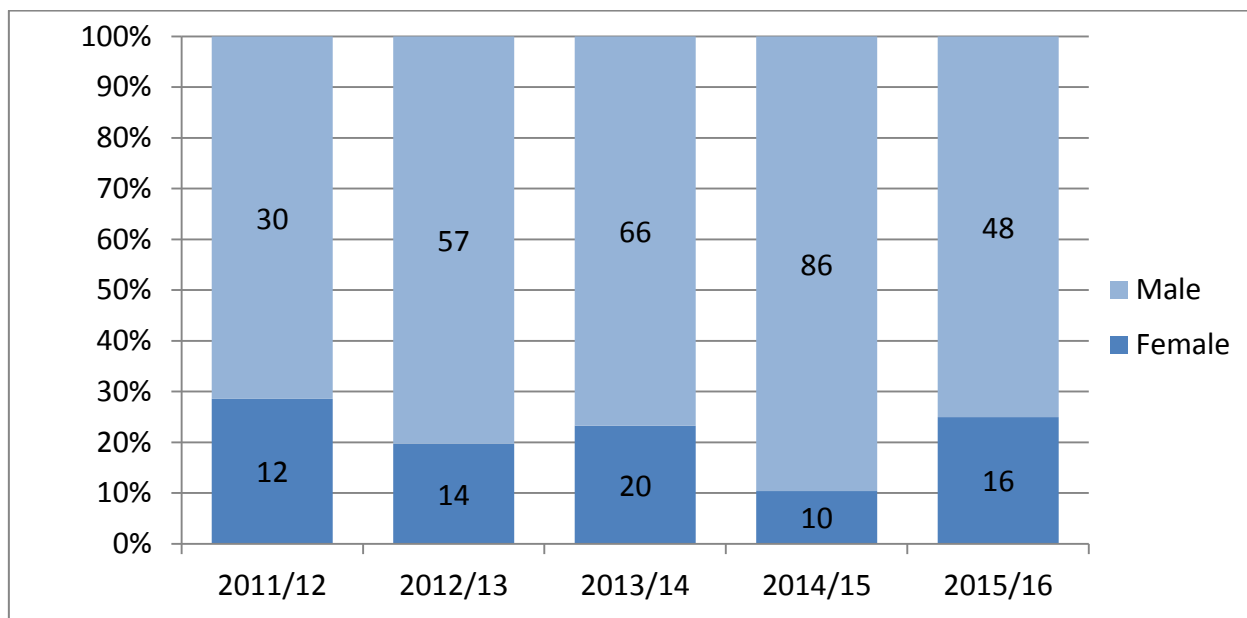


Figure 4: Research Masters student numbers by gender 2011–2015⁴

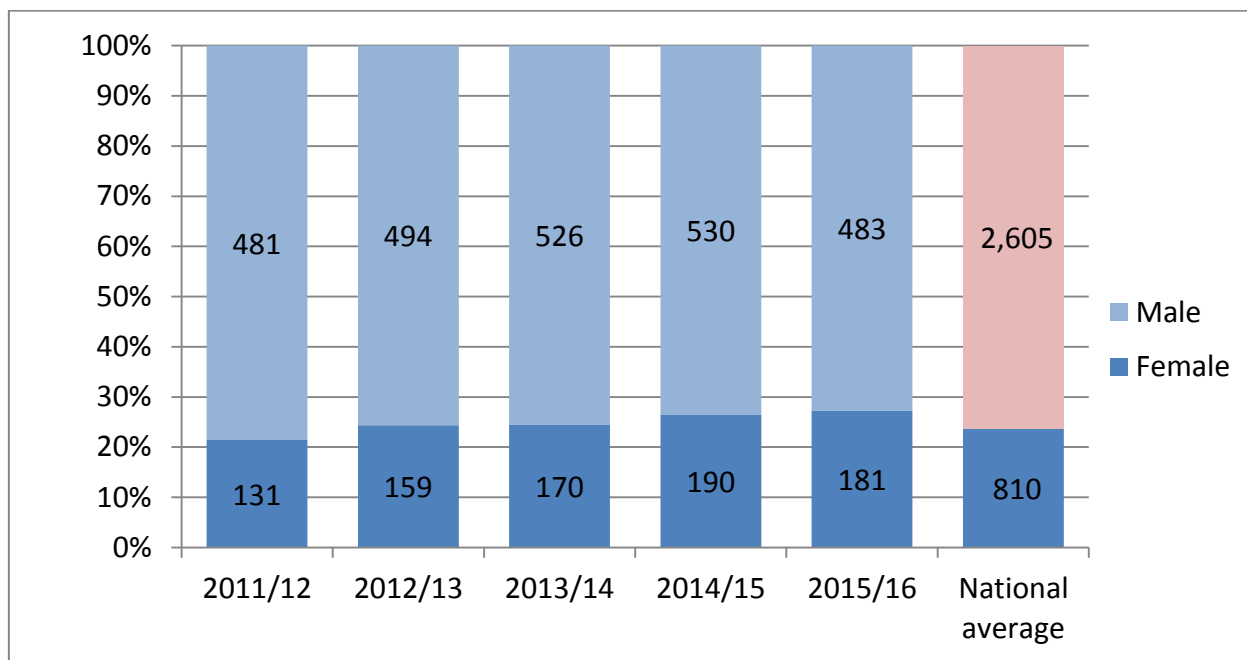


Figure 5: PhD numbers by gender 2011–2015

⁴ National benchmarking data was not available for MRes courses.

Figure 4 shows that, as for taught Masters courses, the proportion of female research Masters students decreased in 2014/15, but recovered in 2015/16. Again, no cause for the decrease has been identified but if it recurs the Department will investigate further.

Figure 5 shows that the proportion of women PhD students has increased each year, from 21% in 2011/12 to 27% in 2015/16, and is now 3% above the national average for engineering. This increase can be attributed in part to measures introduced in the Bronze action plan to recruit more female students and support them better through their studies. Again, the initiatives described in the ‘undergraduate numbers’ and ‘culture’ sections are also designed to increase the proportion of women graduate students.

In 2015/16 7 female PhD students and 13 male were studying part-time (4% and 3% respectively). Figures for research Masters students were higher: 7 women, 29 men (50% and 60% respectively).

- (v) **Ratio of course applications to offers and acceptances by gender for undergraduate, postgraduate taught and postgraduate research degrees –** comment on the differences between male and female application and success rates and describe any initiatives taken to address any imbalance and their effect to date. Comment upon any plans for the future.

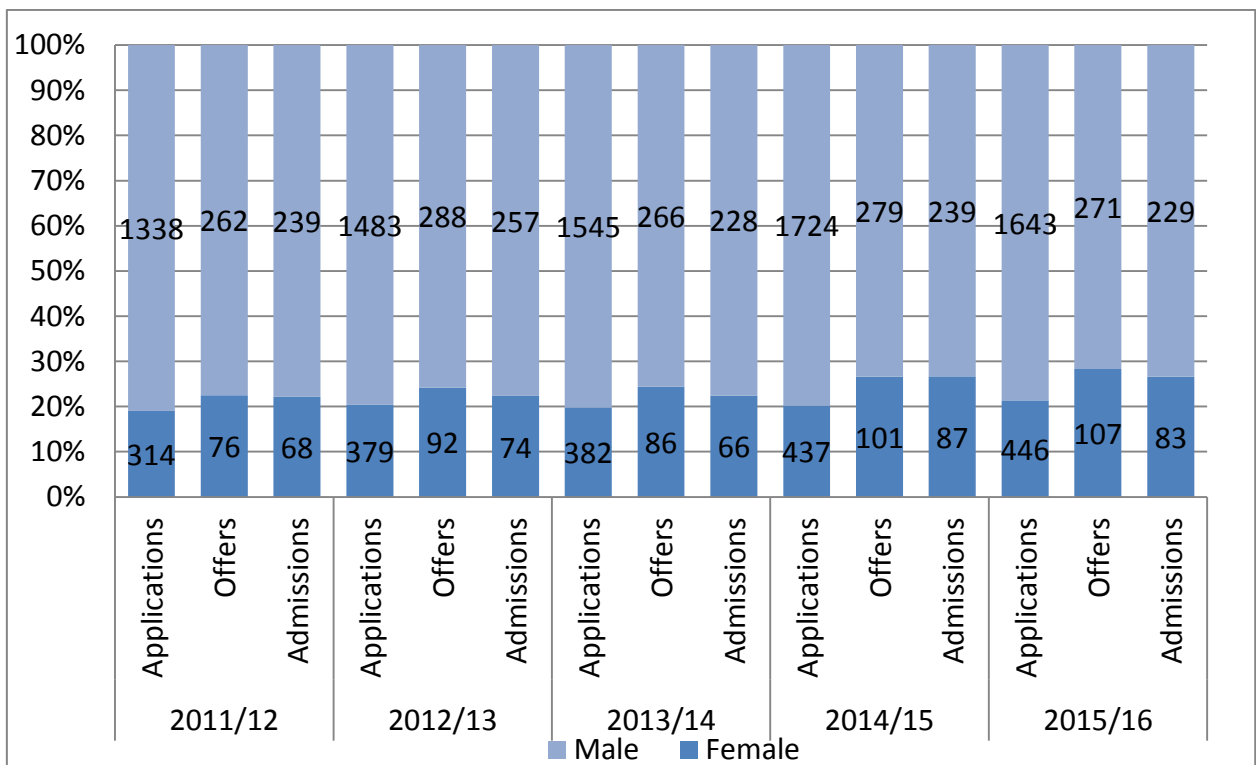


Figure 6: Undergraduate applications and admissions by gender 2011–2015

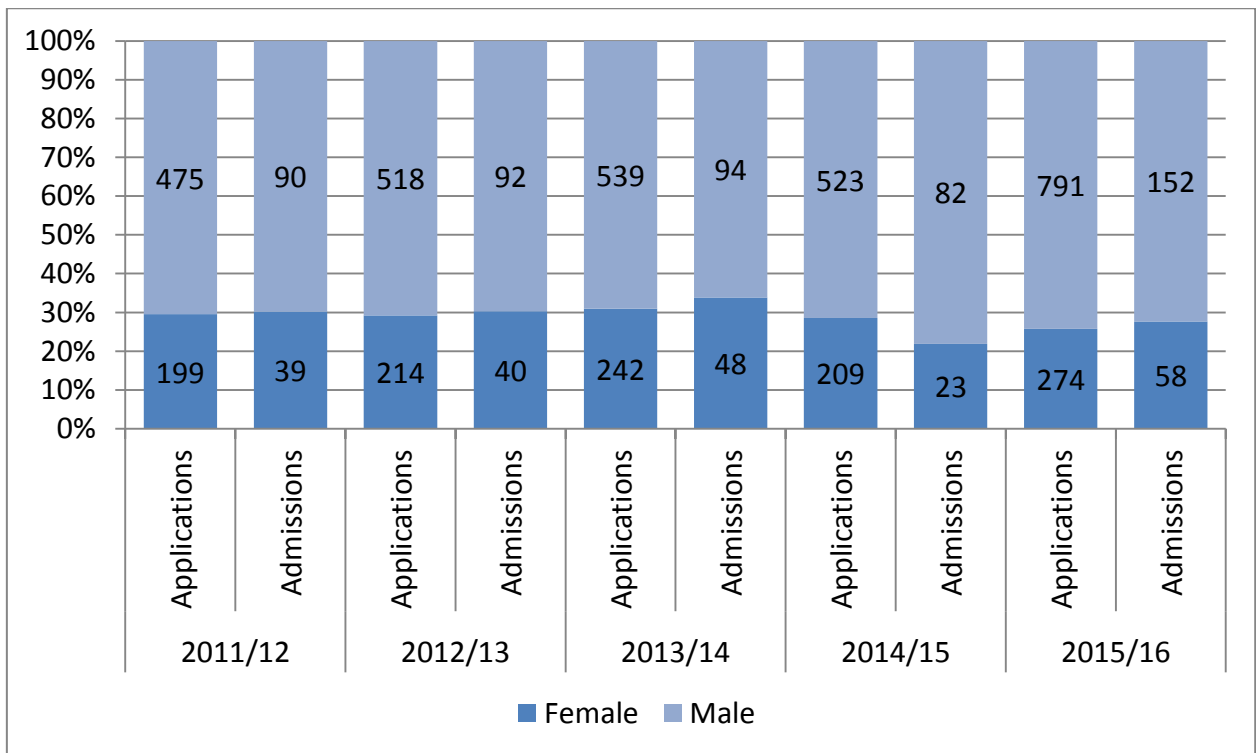


Figure 7: MPhil applications and admissions by gender 2011–2015

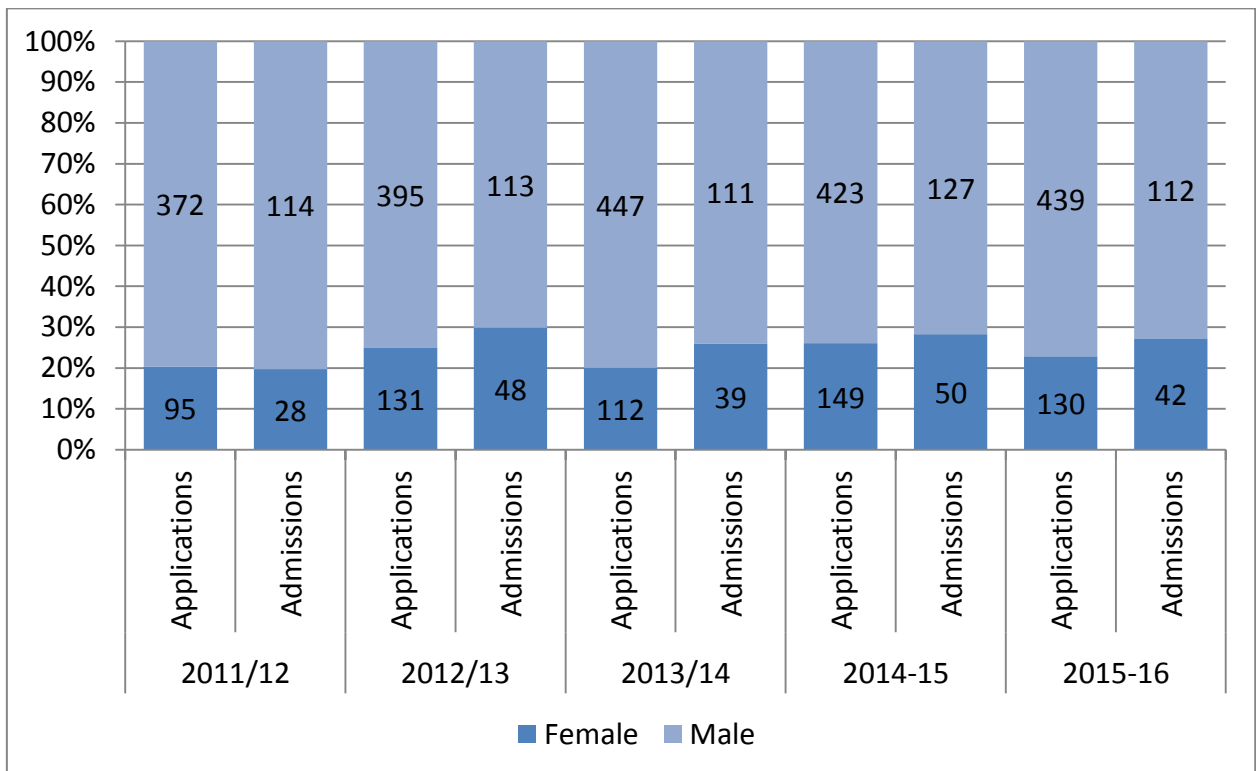


Figure 8: PhD applications and admissions by gender 2011–2015

All Cambridge undergraduate students are members of a College. The Colleges are separate legal entities governed by their own statutes and regulations. One of their responsibilities is to select and admit undergraduates. Therefore it is the Colleges, and not the University or individual departments, that oversee all undergraduate recruitment. The Head of Department

is encouraging staff to act as Admissions Tutors so that Engineering is represented on the Admissions Forum, which defines University admissions policy. [A.6.5]

Figure 6 shows that the Bronze Award action of increasing applications from female students has been achieved. There was a record number of applications from female students for undergraduate places in 2015/16 (21%) and the proportion of women admitted (27%) was also the highest yet. This achievement can be largely attributed to the Department's proactive outreach programme; most of the students in our focus groups cited positive experiences at outreach events as reasons for applying to the Department.

We will continue to try to increase the proportion of women students but only c.3% of girls take A-level Physics, limiting the pool of potential women engineers. The Royal Academy of Engineering has identified that, in contrast to male students, suitably qualified women tend to pursue subjects such as medicine and veterinary medicine rather than engineering. Our student focus groups suggested that several factors perpetuate this trend: negative perceptions of engineering among family and peers, low awareness of the creative and diverse nature of engineering and lack of encouragement from Physics teachers and other advisors.

Actions outlined under 'undergraduate male and female numbers' aim to dispel such outdated perceptions and make applying to the Department more attractive. We will also ensure that our publicity and website highlights our higher than average proportion of women students. [A.6.2]

Figure 8 shows that the proportion of female PhD applicants is fairly stable and the proportion of women admitted has been higher than the proportion of female applicants for the last four cohorts. Figure 7 shows no consistent pattern for MPhil applicants.

- (vi) **Degree classification by gender** – comment on any differences in degree attainment between males and females and describe what actions are being taken to address any imbalance.

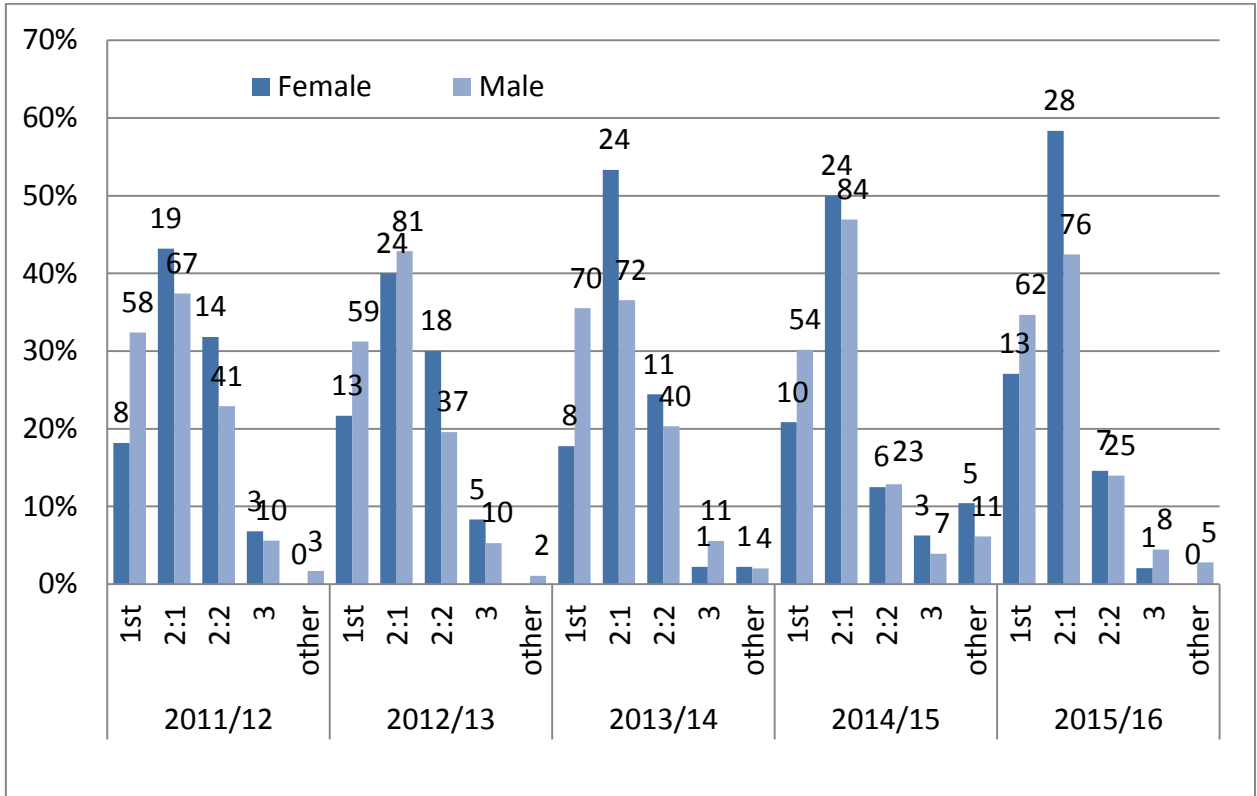


Figure 9: Degree classification by gender for the third-year (BA) of the Engineering Degree 2012–2016

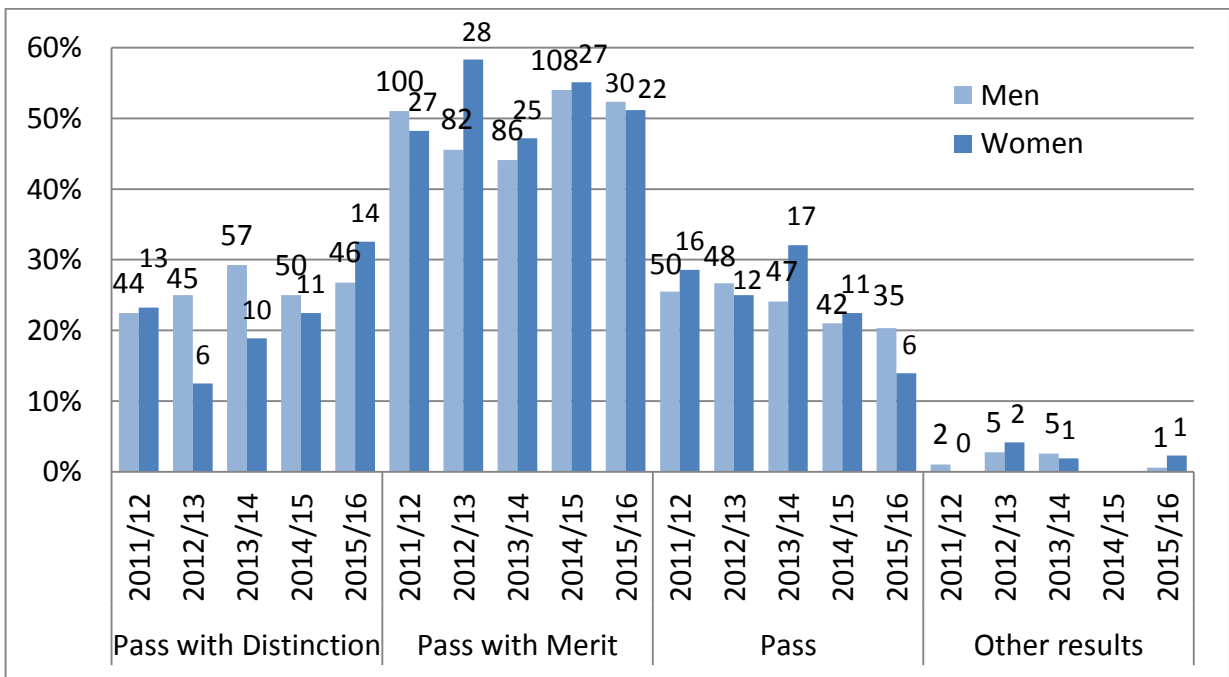


Figure 10: Exam results by gender for the fourth-year (MEng) of the Engineering Degree 2012–2016

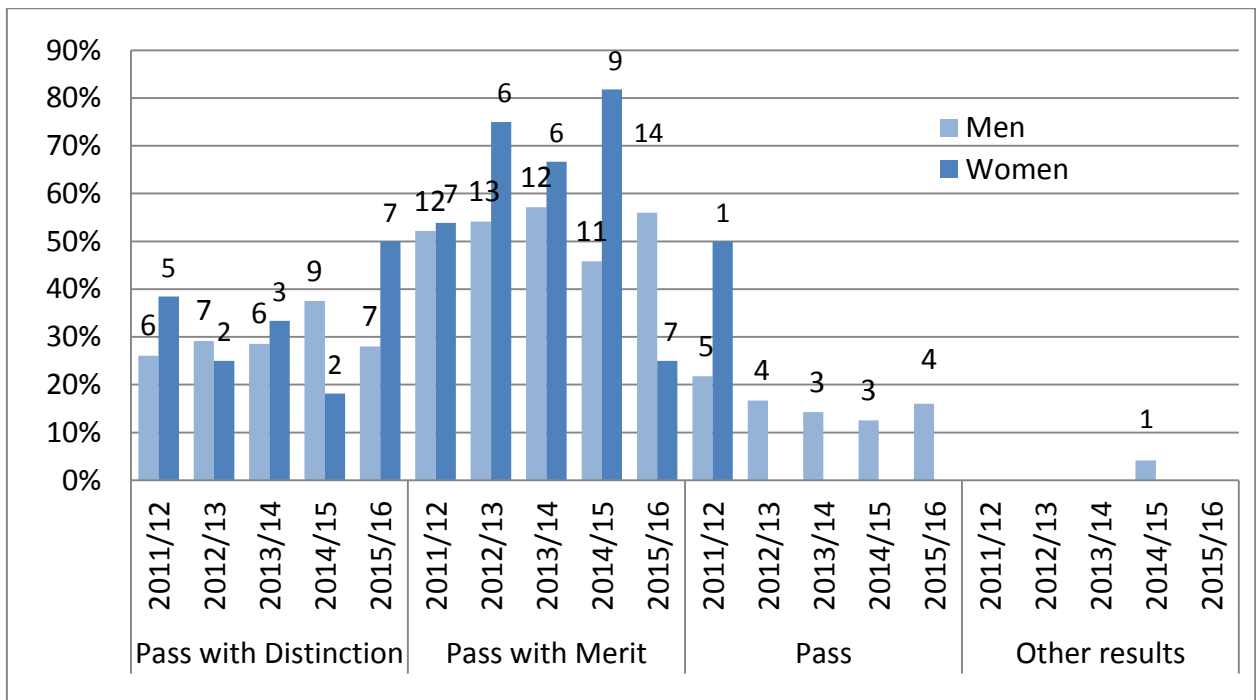


Figure 11: Exam results by gender for the fourth-year (MEng) of the Manufacturing Engineering Degree 2012–2016

Female students have historically achieved fewer firsts than their male counterparts. However, Figures 9-11 show the positive impact of the actions implemented via our Bronze plan for raising the aspirations of women students, creating a more supportive learning environment and improving awareness of gender issues among those involved in teaching. The data shows that:

- the proportion of women awarded firsts at BA level and distinctions in the MEng has improved yearly since the Bronze Award;
- the difference between the proportion of male and female students awarded firsts in their BA year halved from an 18% difference in 2013/14 to 9% in 2014/15;
- the proportion of women awarded firsts was a record 27% in 2015/16;
- the proportion of MET women awarded distinctions was a record 50% in 2015/16;
- the proportion of women receiving distinctions in the MEng exceeded the rate for men for the first time in 2015/16 (33% compared to 27%).

Figure 11 shows that female MET students tend to outperform the men. MET is a fairly small cohort compared to the main Engineering Degree so the SAT is wary of drawing general conclusions but will explore why women do better at MET.

The SAT will liaise with cognate departments about actions that could further improve female achievement. [A.6.9]

Staff data

- (vii) **Female:male ratio of academic staff and research staff** – researcher, lecturer, senior lecturer, reader, professor (or equivalent). comment on any differences in numbers between males and females and say what action is being taken to address any underrepresentation at particular grades/levels

Proportion of female staff

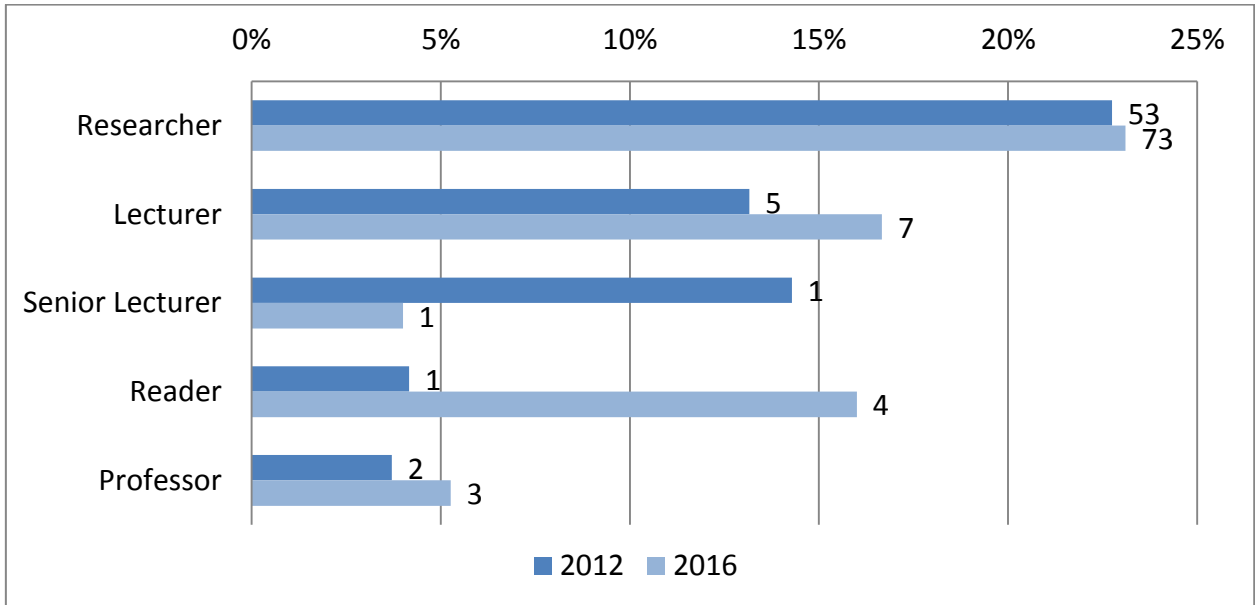


Figure 12: Proportion of female staff in 2012 and 2016

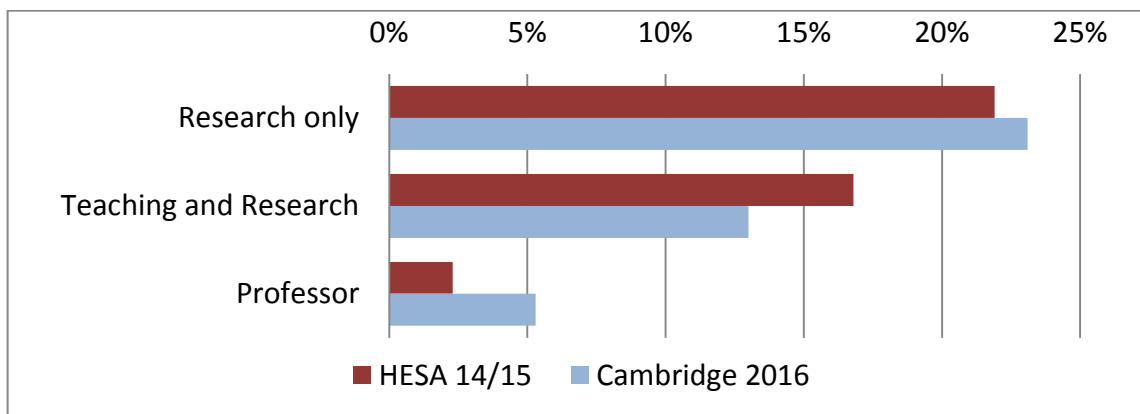


Figure 13: Comparison between the proportions of female academic and research staff in the Department and national benchmarks

Figure 12 shows that the number of female academic and research staff has increased in line with the aims of the Bronze plan. The Department now has three female professors, four readers, one senior lecturer and eight university lecturers (including one appointed after the census date, so not in the data). There are 73 female researchers, seven of whom are SRAs. We are pleased to report that a fourth female professor will join the Department in 2017.

The recruitment of five female academics in the last six months demonstrates the impact of the measures introduced to increase the proportion of women academic staff (described in the 'recruitment', 'staff support' and 'culture' sections).

Figure 13 does not take account of recent appointments but still shows that the proportions of female professors and research-only staff are higher than the national benchmark, while the proportion of female teaching/research staff is slightly lower. Measures to increase the proportion of women applicants are described under 'recruitment of staff'. [A.8.1-A.8.4]

Academic pipeline

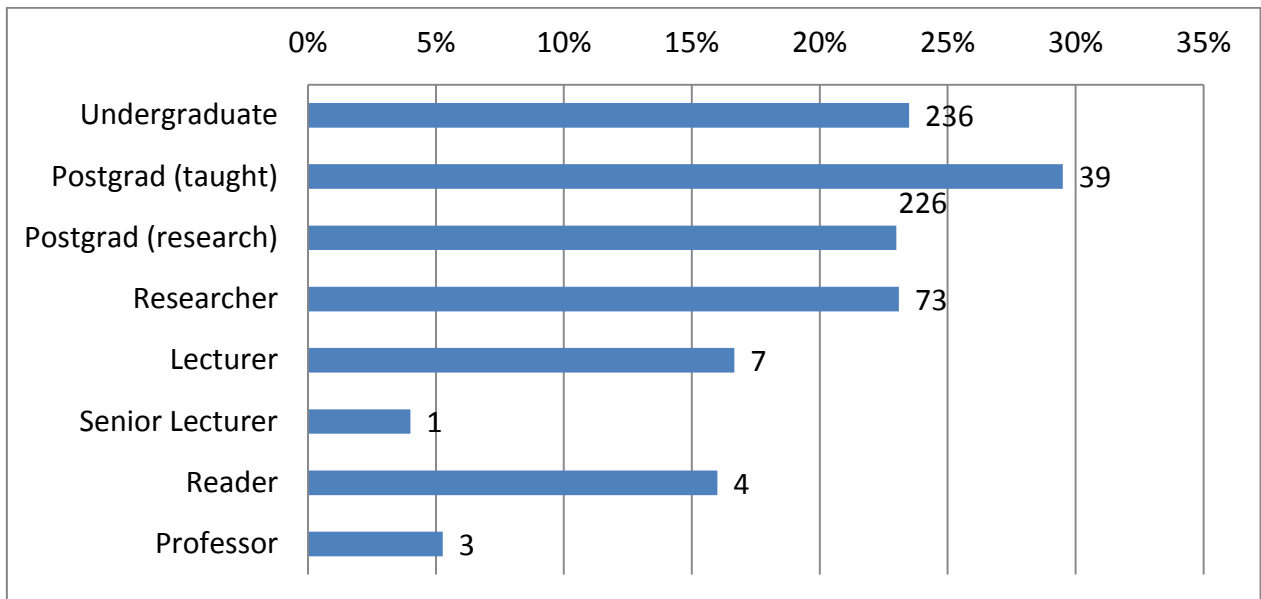


Figure 14: Proportion of women across all career stages 2016

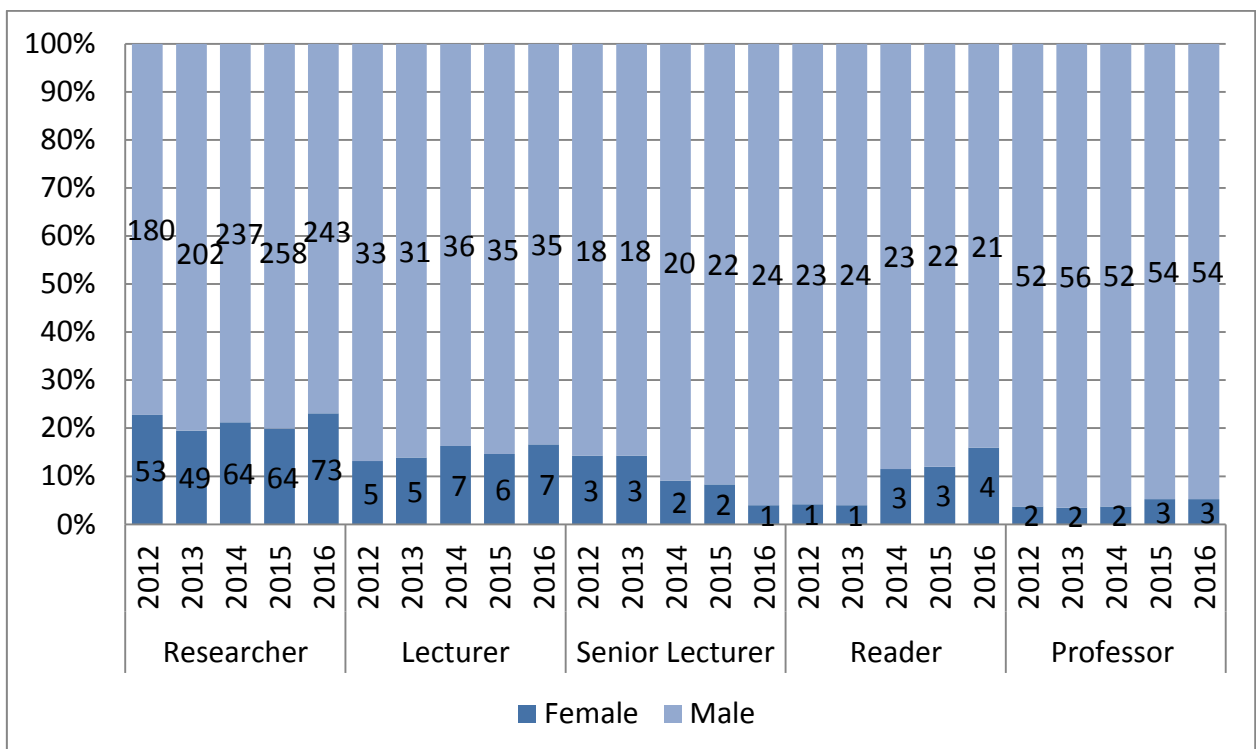


Figure 15: Academic pipeline 2012–2016

Figures 14 and 15 show that the proportion of female staff decreases as they progress through the academic pipeline from c.23% of researchers to c.5% of professors. The numbers for senior staff are very small but the increase in women readers and professors shows that women have been successful in the promotions scheme. The Department will continue to encourage all eligible women staff to participate in the SAP scheme to support them through the promotions exercise. The proportion of women at a more senior level is expected to increase as recently recruited female lecturers progress through probation and promotion. [A.9.6]

Figure 14 shows that the proportion of women is highest at taught postgraduate level; a significant proportion then leave the Department. The Department aims to ensure that strong candidates are nurtured and encouraged to stay in academia and that any barriers are addressed (see the ‘researcher’ section of ‘supporting staff at key areas’. [A.8.3]

The SAT has introduced an exit questionnaire for researchers to establish why they are leaving and whether we could do more to retain them. Leavers can give confidential feedback to encourage openness. From 2016/17 the Research Office will incorporate the questionnaire into their processes, which we anticipate will increase the completion rate and give more comprehensive data and constructive feedback. The SAT will consider any issues raised and refer feedback to the appropriate bodies for action if necessary. [A.7.9]

- (viii) **Turnover by grade and gender** – comment on any differences between men and women in turnover and say what is being done to address this. Where the number of staff leaving is small, comment on the reasons why particular individuals left.

		Number of leavers (turnover shown in parentheses)		
Year	Type	Female	Male	Total
2013	Academic	- (0%)	1 (1%)	1 (1%)
	Researcher	16 (29%)	85 (42%)	101 (39%)
2014	Academic	- (0%)	3 (2%)	3 (2%)
	Researcher	17 (24%)	70 (30%)	87 (28%)
2015	Academic	1 (7%)	10 (7%)	11 (7%)
	Researcher	17 (26%)	94 (36%)	111 (34%)

Table 3. Turnover

Turnover for academic staff is so low that no meaningful conclusions can be drawn. In the last three years one female academic left to move country for personal reasons. In the same period turnover for male academic staff was 1-7%.

Turnover for researchers is higher since grant-funded research positions tend to be short term. Table 3 shows that the turnover rate for women is lower than for men. The reasons for this are as yet unclear but, as described above, we have introduced an exit questionnaire for

researchers to aid our understanding. Reasons cited by leavers so far include offers of more senior positions, end of funding and more lucrative work in industry.

4. Supporting and advancing women’s careers: maximum 5000 words (word count: 5231)

Key career transition points

a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

(i) **Job application and success rates by gender and grade** – comment on any differences in recruitment between men and women at any level and say what action is being taken to address this.

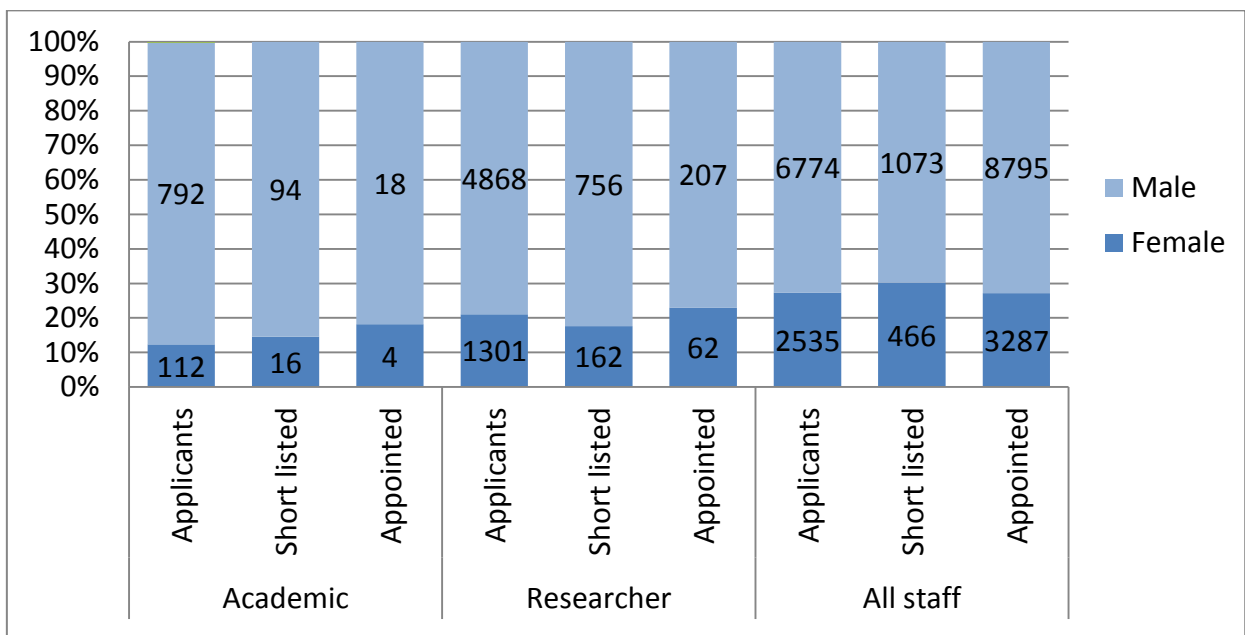


Figure 16: Recruitment data by gender in the period 2013–2016

Figure 16 shows that although the number of applications from women is still low they were proportionately more successful (academic positions: 12% applicants/18% appointments; researchers: 21% applicants/23% appointments). Measures to increase the proportion of women applicants are described under ‘recruitment of staff’.

(ii) **Applications for promotion and success rates by gender and grade** – comment on whether these differ for men and women and if they do explain what action may be taken. Where the number of women is small applicants may comment on specific examples of where women have been through the promotion process. Explain how potential candidates are identified.

Academic staff

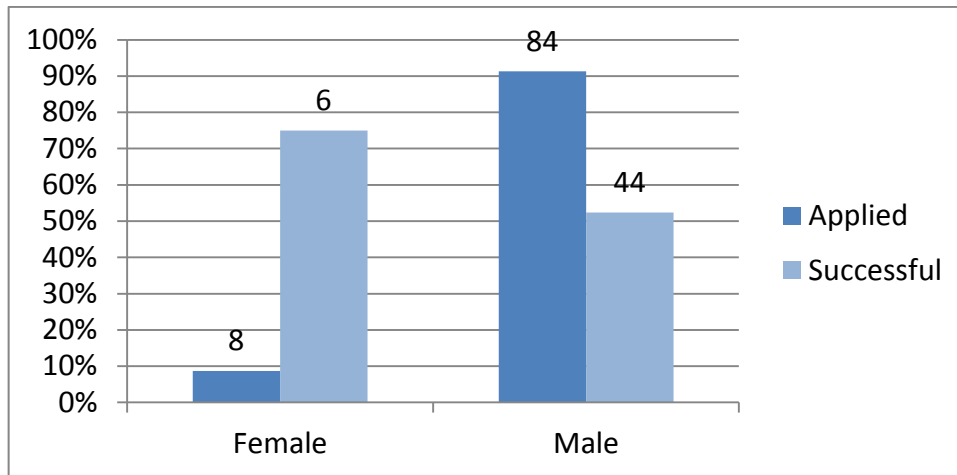


Figure 17: Promotions by gender in the period 2011–2016

Figure 17 shows that a higher proportion of female academics are successful in their applications for promotion than their male colleagues; this represents a very high proportion of those who are eligible to apply.

The Department helps prepare staff for applying for promotion via regular staff reviews and the mentoring scheme. Staff are also encouraged to use the University’s SAP CV Scheme, whereby an experienced senior academic gives constructive feedback on the candidate’s CV and promotion paperwork before submission. [A.9.6]

The Academic Committee scrutinises promotions data annually to identify actions that might lead more staff to apply successfully earlier. [A.9.5]

Researchers

Researcher promotions are proportionate to the cohort’s gender balance. PIs discuss promotion prospects for RAs during annual reviews: candidates should be near the top of the grade, meet SRA criteria and have the support of their PI. Decisions about promotion rest with the PI and are overseen by the Director of Research.

b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.

- (i) **Recruitment of staff** – comment on how the department’s recruitment processes ensure that female candidates are attracted to apply, and how the department ensures its short listing, selection processes and criteria comply with the university’s equal opportunities policies

Academic staff

In common with other engineering departments we face significant challenges in recruiting suitably qualified women to academic positions, as the proportion of women in some branches of engineering is very low. Thus the recent appointment of four women lecturers and a professor demonstrate the impact of measures introduced to encourage more women to apply, which include: [A.8.1 & A.8.3]

- advertising via **relevant networks and women’s societies**;
- encouraging applications from **strong researchers**;
- **attractive support packages**, including recruitment incentives of up to £20,000;
- details of **family-friendly policies** (e.g. maternity, paternity, equal opportunities, flexible working and commitment to Athena SWAN) in the further particulars;
- use of **gender-neutral language** in recruitment material.

The Department introduced new criteria for Search Committees in 2014 to promote equal opportunities and consistently good recruitment practice. These stipulate: [A.8.1]

- everyone involved in recruitment must complete the University’s **E&D training**;
- **at least one female academic** on every Shortlisting Panel;
- **Chairs must report on steps Search Committees took to increase the number of women applicants**; shortlisting only proceeds if the Panel is convinced there was sufficient, reasonable action to ensure a diverse pool of candidates;
- Shortlisting Panels’ recommendations are approved by the Faculty’s Appointments Committee to ensure **consistent standards**.

As a result of the actions outlined above, recent Search Committees have reported an increase in the proportion of women applying for lectureships. For example, there were 37 high quality applications for a lectureship in power electronics in 2016. The applications were very diverse: at least five were from women.¹ The Committee’s Chair spoke with two of the women who were young researchers of great potential to encourage them to apply.

The pool for this post was significantly broader than when the last lectureship in power electronics was advertised in 2012, when there were no applications from women.

The Department is aware of the need to think creatively about how to attract more suitably qualified women and intends to explore successful initiatives in other engineering

departments.⁵ The Department also intends to introduce unconscious bias training for selection panels. [A.8.2 & A.8.4]

Researchers

The recruitment process for researchers is managed by the supervisory PI. Training is available through central HR and the Department's Research Office offers guidance and support. PIs are advised that there can be no positive discrimination but they are conscious of the need to appoint more female staff and keep this in mind if they have candidates of equal merit.

- (ii) **Support for staff at key career transition points** – having identified key areas of attrition of female staff in the department, comment on any interventions, programmes and activities that support women at the crucial stages, such as personal development training, opportunities for networking, mentoring programmes and leadership training. Identify which have been found to work best at the different career stages.

Overview

Key areas of attrition for female staff are the transition from postgraduate to researcher and from researcher to lecturer. Our main challenge is to retain researchers; losing them to industry shrinks the pool of women from which we can appoint new academic staff. Therefore, our priorities are to improve the experience of all researchers, particularly women, and to encourage female researchers to pursue an academic career. [A.7.1]

Researchers

“Throughout my employment as a Postdoc I was provided with opportunities to grow as a research leader, but at the same time provided with opportunities to gear down should my family life require it (I have two young children). I always felt that I was treated equally to everyone else, and that I was acknowledged for my work. The Department of Engineering has done much to improve its support for women in research, and I will warmly recommend it as a great place to work.”

Recent researcher (female)

The Divisional Champions are working closely with the Department's Postdoc Committee (established in October 2013) to improve the sense of community among researchers.

Initiatives include:

- the introduction of a Department-wide **peer-to-peer mentoring programme** following a successful pilot. Since March 2016, every new researcher has been allocated a trained mentor: 83 researchers have completed the training. Feedback shows that researchers value the opportunity to consider their career goals and connect with peers; [A.7.7]

⁵ For example, Table 2 shows that just 11% of academic and research staff in Division A (Energy, Fluid Mechanics & Turbomachinery) are women.

- the Postdoc Committee’s Divisional reps trialling different ways of **engaging with their fellow researchers** in response to findings in the staff survey that just 49% of women researchers felt well informed about what was happening within their Division. The particularly successful Division C model of regular gatherings organised by the Head of Division, opening a constructive dialogue between the Division and its researchers, is now promoted as good practice to other Divisions; [A.7.3]
- encouraging researchers to **participate in departmental management activities** such as committee work, which offers valuable PPD opportunities and makes them feel more integrated into the Department while reducing the burden on women academics; [A.7.4]
- **better communication** via a new researcher email group and event news server, plus information about the Postdoc Committee in the induction package.

The diverse nature of the researcher community means that there is relatively little Department-wide data about their experience. The Postdoc Committee plans to conduct a survey of researchers about College affiliation, PPD, teaching opportunities and mentoring, which will provide baseline data against which to measure progress. [A.7.2 & A.7.5]

“Everything is going very well with my research and relationship with my PI. Thanks to my mentor!”

“I personally have found it a very useful experience”

Comments from a mentee and mentor respectively

Academic staff

The Department offers considerable support to new academics, including:

- personal start-up funds (typically £5-10,000 for use on travel, IT etc.);
- guidance about the housing market, healthcare, schools and nurseries etc.;
- mentoring from more experienced staff not in their management chain.

The Postdoc Committee has opened its mentor training to academic staff, aiming to increase the sense of collegiality between researchers and academics and promote a common understanding of mentoring. [A.9.3]

Support during probation and career progression is described under ‘promotion and career development’.

There are opportunities for staff to network, including the termly WiE Forum events (see ‘culture’).

Career development

- a) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
- (i) **Promotion and career development** – comment on the appraisal and career development process, and promotion criteria and whether these take into consideration responsibilities for teaching, research, administration, pastoral work and outreach work; is quality of work emphasised over quantity of work?

Following successful completion of the probation period, staff receive biennial reviews that consider all their responsibilities and provide continued career development guidance. The HR Office is reviewing the appraisal process and organising more training for reviewers because in the staff survey only 57% staff reported finding their last review useful. [A.9.4]

In 2016 the Department's HR Office launched a training programme designed to support career progression and improve interpersonal and management skills. It is particularly targeted at mid-career staff since early career and senior staff are already well catered for via University courses.

The programme, which is open to all staff, includes training on leadership and management. The SAT anticipates that this will particularly benefit women academics, 70% of whom indicated in the staff survey that they would take advantage of leadership training if it were available locally (compared to 46% men). Other training is aimed at specific staff groups, for example presentation skills for academic and research staff, and training on University policies and systems for assistant staff. [A.9.2]

Staff are also encouraged to participate in relevant training provided by the University's PPD office: all staff receive a termly booklet detailing courses, which are also listed online and promoted via email and posters.

Researchers

Researchers have a six-month probation period after which the PI conducts periodic reviews to clarify expectations and provide constructive feedback on performance. The short-term nature of most research positions means that researchers do not always see reviews as relevant to them. The Academic Committee has asked PIs to promote the staff review system more actively as occasions to think strategically about career aims and development opportunities. In particular, PIs are asked to use the reviews to encourage women researchers to consider careers in academia. [A.7.8]

The Department's Researcher Development Coordinator offers a full set of development activities for postgraduate students and researchers, including:

- workshops on skills such as developing assertiveness, building resilience, negotiation, leadership and strategic thinking;

- individual 40-minute face-to-face 'skills analysis sessions' that consider a personal development plan (uptake is typically 55-75 p.a., c.40% women);
- individual life coaching sessions, based on the Emerging Research Leaders Development Programme, pioneered at the Department of Engineering in 2012 and now rolled out to the wider University;
- individual writing skills mentoring sessions.

These departmental sessions are very well received and a small number of our researchers (uptake and gender data plus feedback will be gathered for future sessions) also attend the Office of Postdoctoral Affairs' Leadership Masterclasses and the University's Emerging Research Leaders Development Programme. In addition, the Postdoc Committee has introduced sessions on leadership and self-leadership, which have been very well received and will now also be promoted to academic staff. [A.7.6, A.9.2, A.9.7]

"The coaching sessions have represented a real turning point. I have never before had the opportunity to focus in such depth on my own career."

Researcher

The promotion process is described above.

- (ii) **Induction and training** – describe the support provided to new staff at all levels, as well as details of any gender equality training. To what extent are good employment practices in the institution, such as opportunities for networking, the flexible working policy, and professional and personal development opportunities promoted to staff from the outset?

The Department runs a short biannual induction programme to welcome new staff. In 2015 completion of the University's E&D training was integrated into the induction to establish the Department's commitment to E&D at the outset. The format was also changed to include a tour and more short presentations, including sessions tailored to different groups, with staff encouraged to mix during the generic sessions. [A.4.1]

All new academics take the University's PHEP programme, which provides an opportunity to reflect on career goals. The departmental induction pack includes details of relevant family-friendly policies and PPD opportunities, which are reinforced at welcome meetings with the senior management team, Head of Division, key support staff and their mentor. These meetings also suggest relevant networking opportunities.

All academic staff undergo a five-year probation that supports them in establishing their research, teaching and general contribution activities. Staff must demonstrate excellence and satisfactory progress in all three areas. General contribution includes contributions within the Department, to outreach and to the wider academic community. Annual probation reviews identify any actions that are needed to redress imbalances across the three areas, for example teaching masterclasses, feedback on lecture style from mentors, and a reassessment of duties. Extensions to probation may be approved for personal and professional circumstances.

Probationers are encouraged to discuss the process and share best practice with the Probation Committee and academic staff who recently passed their probation at an annual networking event. Recent probationers will be surveyed and the scheme adjusted if necessary to ensure that it is a consistently constructive experience. [A.9.1]

Researchers benefit from a comprehensive induction, which includes:

- a **welcome pack**, including the University's 'Staff Guide', covering topics such as maternity, paternity, dignity at work and equal opportunities;
- an **induction by the PI** and a registration appointment with the Research Office at which staff are encouraged to take advantage of the available training and networking opportunities;
- a **one-to-one meeting with a careers advisor** (recognising that most researchers use their position as a career advancing stepping stone).

(iii) **Support for female students** – describe the support (formal and informal) provided for female students to enable them to make the transition to a sustainable academic career, particularly from postgraduate to researcher, such as mentoring, seminars and pastoral support and the right to request a female personal tutor. Comment on whether these activities are run by female staff and how this work is formally recognised by the department.

Students receive support from their College, the Department and the wider University (including the Counselling and Student Advice Services). Every student is allocated a Personal Tutor and Director of Studies, who provide support in pastoral and academic matters respectively. The Colleges would consider any requests for a female Personal Tutor.

The Deputy Heads of Department for Teaching and Graduate Studies, who oversee the support provided to students, are both women. The Department has introduced unconscious bias training, gender awareness and details of inclusive teaching practices into its training sessions for College supervisors to address occasional reports of sexism against some supervisors and improve the supervision experience for all, and particularly women, students. [A.6.7]

Students are encouraged to take up PPD opportunities such as conferences, sponsorships and placements, which can improve their confidence and attractiveness to employers. These are promoted via the SSJC and CUES. For example, the Department supported Aurelia Hibbert to take a year out of her degree to act as the first full-time Director of CUER, an opportunity that led to international acclaim. Opportunities targeted specifically at women are promoted via the WiE website. [A.6.8]

See 'Promotion and career development: researchers' for details of the support that the Researcher Development Coordinator offers to graduate students.



Aurelia Hibbert meeting the Queen at the International Festival of Business

WiE Forum events are well attended by students and encourage the formation of informal support mechanisms. Many students also seek and find support from women staff and/or students.

The Department also directs students to sources of University support, including:

- **Careers Services:** the service has a database of alumni who are willing to mentor students. There are two female professional advisors for science and engineering researchers and individual mentoring and interview skills sessions;
- **EnterpriseWISE:** this entrepreneurship course for PhD and early career women in STEMM is organised and facilitated by women and aims to develop skills, knowledge and confidence;
- **Springboard:** this three-month personal development programme for women staff and graduate students includes work on assertiveness, self-confidence, work-life balance and career aspirations.

Organisation and culture

a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

(i) **Male and female representation on committees** – provide a breakdown by committee and explain any differences between male and female representation. Explain how potential members are identified.

Committee	2013			2016*		
	F	M	% F	F	M	% F
Academic Committee	2	9	18%	2	10	18%
Appointments Committee	2	5	29%	2	5	29%
Assistant Staff Committee	7	8	47%	12	11	52%
Council Committee	2	12	14%	6	12	33%
Degree Committee	3	14	18%	3	14	18%
Director of Studies Committee***				8	67	11%
Examinations Committee	2	9	22%	2	12	14%
Faculty Board	6	20	23%	4	22	15%
Library Committee	3	15	17%	4	13	24%
Postdoc Committee**				3	8	27%
Probation Committee***				2	7	29%
Promotions Committee	3	6	33%	2	8	20%
SAT	6	5	55%	12	6	67%
SSJC				4	10	23%
Teaching Committee	3	10	23%	2	14	14%

Table 4. Committee membership by gender

* Figures exclude secretaries, unless they are full participating members.

** New committee.

*** Committee membership not tracked in previous years.

The SAT reviews the gender balance of the Department's main committees annually. The Department complies with the University's advisory policy that there must be at least two female members on most formal committees.

Table 4 shows that the proportion of women on some key committees has increased since 2013 (shaded in the table), although on others it remains low, reflecting the gender balance of the academic staff.⁶

The Department is careful not to overburden women with committee work and the recent inclusion of general contribution data into the workload model should help prevent this. The Head of Department suggests new members for most of the committees. In doing so he is

⁶In 2013 Professor Dame Ann Dowling was Head of the Department and she sat on most of these committees, so when she stood down the gender balance declined.

mindful of the SAT's suggestions for improving the gender balance of the Department's committees, the full workload of each staff member and which opportunities might be beneficial to their development. [A.2.5]

- (ii) **Female:male ratio of academic and research staff on fixed-term contracts and open-ended (permanent) contracts** – comment on any differences between male and female staff representation on fixed-term contracts and say what is being done to address them.

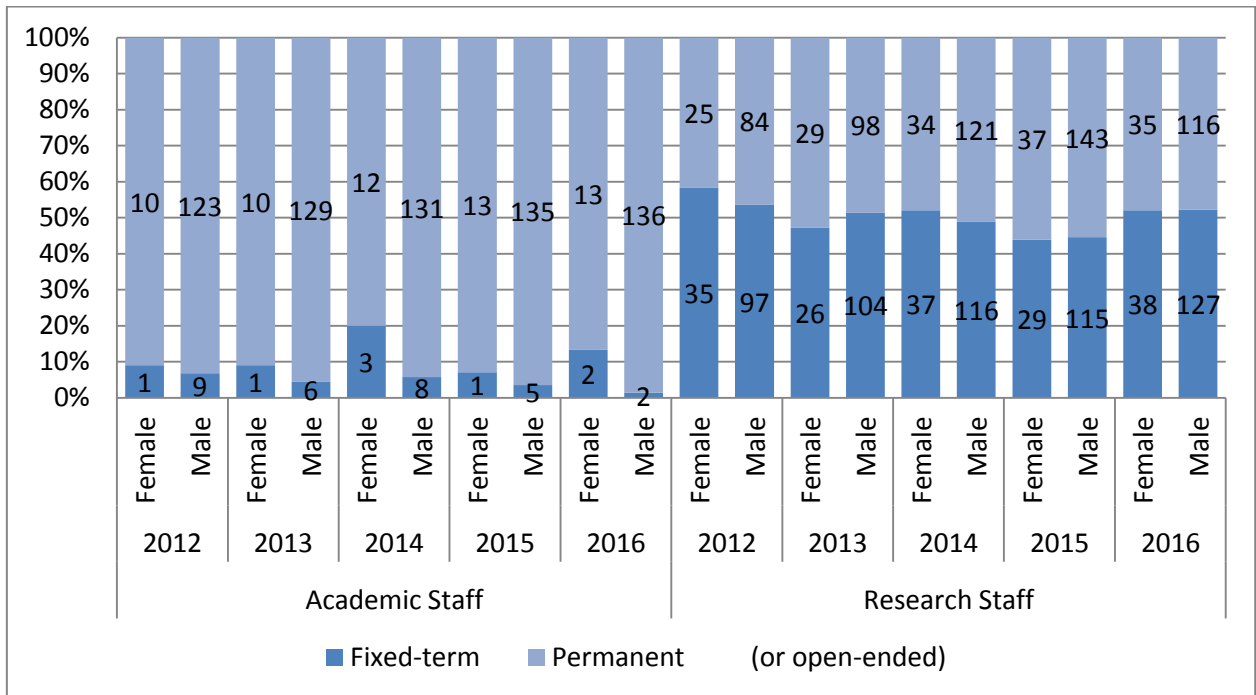


Figure 18: Proportion of staff on fixed-term and permanent contracts by gender 2012–2016

Figure 18 shows that the number of academic staff on fixed-term contracts is very small, with broadly comparable proportions for men and women. Academic posts are normally permanent. Occasionally funding opportunities arise to support the creation of fixed-term lectureships to support research and/or teaching; these can provide a valuable stepping stone to an academic career.

The number of researchers on fixed-term contracts is higher due to the nature of research grant funding, with no significant gender difference.

a) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.

(i) **Representation on decision-making committees** – comment on evidence of gender equality in the mechanism for selecting representatives. What evidence is there that women are encouraged to sit on a range of influential committees inside and outside the department? How is the issue of ‘committee overload’ addressed where there are small numbers of female staff?

As part of the Bronze plan, the SAT introduced guidelines for improving the gender balance of committees without overburdening female academics. These guidelines:

- prioritise **improving the gender balance** on the most influential committees;
- suggest **inviting women SRAs** to join committees where this could be a useful personal development opportunity, relieving the burden on women academics;
- recommend inviting female academics to **indicate which committees** they wish to join.

The guidelines have been publicised throughout the Department and Secretaries are reminded of them ahead of the annual review of membership. [A.2.5]

As part of the general contribution data-gathering exercise we have for the first time a list of which committees our staff members sit on. This reveals that academic women sit on a wide range of influential committees at departmental, College and University level and enables the Department to check they are not overburdened with administration.

(ii) **Workload model** – describe the systems in place to ensure that workload allocations, including pastoral and administrative responsibilities (including the responsibility for work on women and science) are taken into account at appraisal and in promotion criteria. Comment on the rotation of responsibilities e.g. responsibilities with a heavy workload and those that are seen as good for an individual’s career.

All teaching duties are published openly in the Department’s teaching duties database, with a points-based scheme used to balance loads across all teaching staff. This degree of transparency is unusual within the University and our system has been used as an example of good practice by several other departments.

Since the Bronze Award we have expanded the database to include graduate duties. Teaching duties are allocated by the relevant Subject Group Chair and Head of Division in liaison with the Teaching Office. In 2016 analysis of the duties found that women did not have a heavier workload than their male colleagues, confirming the findings of the staff survey, that women academics were 5% more satisfied with their workload than the men.

Staff workload is reviewed annually to ensure that duties are fairly distributed and to reflect career development aspirations. Staff returning from a career break are temporarily given lighter teaching and administrative loads so they can concentrate on their research. Staff are

therefore better able to accommodate family and personal commitments without compromising career development and promotion prospects.⁷

The Department now gathers data about the general contribution and outreach activities of its academic staff. This data is accessible to all staff and provides a far more comprehensive picture of each individual's workload than previously.

Feedback about the transparency and fairness of the system has been positive as it prevents staff who do a lot of 'good citizen' activities from being overloaded. This may be particularly relevant for women academics, who typically have a significant committee load to ensure representation and are often given high profile teaching duties. We expect staff to be more willing to take on administrative and pastoral roles now that they are factored into the workload model. [A.2.6]

(iii) **Timing of departmental meetings and social gatherings** – provide evidence of consideration for those with family responsibilities, for example what the department considers to be core hours and whether there is a more flexible system in place.

In response to feedback on the Bronze submission, the Department's policy on meeting times was revised to state that, where possible, meetings should be held between 09.30 and 15.00 (rather than 09.00-17.00 as previously). This policy is published online and is drawn to the attention of committee secretaries before they set dates.

The Department no longer schedules meetings on Bank Holidays and in 2016/17 is avoiding scheduling labs, lectures and examinations on Bank Holidays as a one-year trial. This trial has been enthusiastically received by staff, particularly those with family responsibilities. We are aware that it is not ideal for such activities to run during school half terms but this is unavoidable as half terms account for too large a proportion of the University's terms. However, the Teaching Office works with staff to schedule activities around family commitments where possible. [A.3.7]

(iv) **Culture** –demonstrate how the department is female-friendly and inclusive. 'Culture' refers to the language, behaviours and other informal interactions that characterise the atmosphere of the department, and includes all staff and students.

Background

We are committed to creating an environment where all Department members feel valued and supported. The initiatives described in this section address the staff survey findings that academic and research women staff were less satisfied with their working environment, less likely to recommend the Department as a good place to work, and less satisfied with their support and treatment than their male colleagues.

⁷ For an example, see Professor Al-Tabbaa's case study.

Social gatherings and networks

Most respondents felt that communication between different parts of the Department could be improved, so the Head of Department is actively seeking to improve the departmental culture through better communication and more networking opportunities. Examples include:

- new **departmental social events**, e.g. Christmas and summer parties, with further events planned (e.g. the launch party for a new book on the Department's history);
- a '**state of the union**' presentation to staff, including an update on actions taken in response to the staff survey;
- opening membership of the **Department's Council** so that all interested staff and students can attend and changing the structure so that meetings will be based around presentations on various departmental developments and themes. [A.3.1]

All departmental events are well attended and feedback on the new events has been very positive, with staff commentating that that the Department is noticeably friendlier and more collegial. [A.4.2 & A.4.3]

The introduction of various clubs which are open to staff and students, e.g. the Lego 'BLOC-Soc', and initiatives such as regular charity cake sales, illustrate the growing sense of community in the Department. The Department is keen to enhance this further and, following suggestions from the WiE Forum, is trialling lunchtime yoga classes and planning to hold more retirement events to bring staff together to celebrate their time at the Department. [A.4.6]

"I wanted to stress how welcoming the Department has been. I appreciated the promotion of gender equality in the Department; it has made me feel at ease in a male-dominated environment."

Undergraduate student (female)

In 2015/16 the SAT introduced an online form to gather information about group and/or Divisional events. This revealed that many groups have extremely active and vibrant cultures with numerous social events, including some specifically for women and others to which families are invited.

Divisional Champions and Administrators are encouraged to share and promote good practice so that all groups have a positive and open environment. For example, regular get-togethers over coffee and cake were found to have a very positive impact on morale, so these have been recommended as an effective, low-cost means of increasing networking and community spirit. [A.4.4 & A.4.5]



The Photonics & Sensors Group's summer party (including families)



MPhil in Engineering for Sustainable Development's pot-luck Christmas party

Working environment

The Department is large and diverse, with many sub-cultures operating on multiple sites.⁸ To promote good practice and a healthy culture the Divisional Champions are currently consulting their colleagues about their working environment (see the 'account of the self-assessment process'). Concerns evident in the staff survey (e.g. that only 50% women academics felt they had 'sufficient support ... to carry out their role') will be explored in the consultations so that appropriate actions can be taken. [A.3.2]

In addition, all research group leaders are being asked to define in writing their expectations of group members so that the Department can ensure that they are transparent, comparable and appropriate. The same exercise also establishes guidelines on the working environment, safety, out-of-hours contact and PPD activities. This could particularly benefit staff with caring responsibilities who may be disadvantaged by expectations of anti-social hours. [A.3.4]

⁸ See section 5 for a map of the Department.

Profile raising

In accordance with the Bronze plan, the SAT has increased the visibility of women engineers to overcome subconscious bias and provide role models. In 2015/16 the SAT invited all Department members to nominate **inspirational women engineers** from any era and field, but excluding women currently in the Department, with the aim of celebrating their achievements. From 60 entries, 21 were shortlisted and professionally printed as A2 posters. Professor Dame Ann Dowling awarded prizes to the winners at a celebratory lunch, attended by 50 of the entrants. [A.1.4]

An exhibition of the winning entries is currently displayed prominently in the Department and a pamphlet of all the entries has been published on the WiE website.

The competition engaged female and male staff and students from all levels. The resulting exhibition has been highly praised by visitors and increased the visibility of women in the Department (previously most of the portraits were of men).

“Great step to promote women engineers. Exposure of successful women engineers will definitely motivate others!”

Event attendee (female)



Prize-giving event for the Inspirational Women Engineers competition

The SAT published **profiles** of 25 of the Department’s women engineers (encompassing all career stages and a wide range of disciplines) to coincide with National WiE Day 2016. The profiles cover: the subjects’ backgrounds, motivations and inspirations; how they overcame challenges and managed their work-life balance; and advice for women considering a career in engineering. Feedback has been excellent, so the portfolio will be expanded to include more students and staff, plus a new section on alumni. [A.1.3]



Claire Barlow
Deputy Head of
Department



Heba Bevan
PhD student



Camille Bilger
PhD student



Carron Blom
PhD student



Annabel Butcher
PhD student



Ann Dowling
Professor



Njemile Faustin
PhD student



Nikita Hari
PhD student



**Simone
Hochgreb**
Professor



Fiona Hughes
PhD student



Hannah Joyce
University
Lecturer



**Anna-Maria
Kypraiou**
PhD student



Alice Moncaster
Lecturer



Ann Nguyen
PhD student



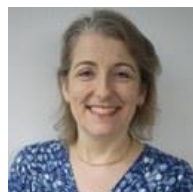
Bella Nguyen
PhD student



Elena Punskeya
Affiliated
Lecturer



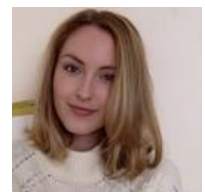
**Stefania
Radopoulou**
PhD student



**Jennifer
Schooling**
CSIC Director



**Sakthy
Selvakumaran**
PhD student



**Hannah
Sheahan**
PhD student



Jenni Sidey
University
Lecturer



Talia da Silva
PhD student



Livia Souza
PhD student



Rebecca Ward
Research
Associate



**Catherine De
Wolf**
Research
Assistant

Profiles of some of the Department's many inspirational women engineers

The SAT is also working with the Communications Office to increase the number and diversity of images of women on the Department's website. [A.1.7]



Newly unveiled portrait of Professor Dame Ann Dowling which has been given pride of place in the Department's Board Room

WiE forum

The **WiE forum** is now an established network for discussion and training across the Department. Everyone is welcome at the termly events but topics reflect issues raised by women, e.g.:

- Why do young successful women leave engineering?
- How good mentoring can help your career
- What's holding you back?
- What are you juggling?

Speakers have included many women staff and students, together with high profile female scientists (e.g. Professor Dame Athene Donald from Physics and Professor Lisa Hall from Biotechnology & Chemical Engineering), plus women from industry.

There are typically 60 attendees at each event, including staff and students from all levels, two-thirds of whom are women. The latest event on addressing unconscious bias had c.100 attendees. Feedback has been very positive and shows that the events are valued for the networking opportunities and informal support mechanisms that they create.

“Thank you for doing this amazing work on women in engineering!”

Researcher (female)



WiE forum event on unconscious bias



Networking over lunch at the WiE forum event on why young successful women leave engineering

In response to requests from forum members the SAT is launching a **termly talk series** at which women engineers (from academia and industry) share their experiences and thoughts on how to have a successful career in engineering. These will be organised by Division to ensure coverage and use existing contacts. The Department also aims to introduce an **annual lecture**; with the inaugural and then every other lecture given by a high profile woman engineer. [A.1.5 & A.1.6]

The **WiE website** includes: news and events, profiles of inspirational women engineers; details of the Athena SWAN initiative; and information about the support available to women, including family-friendly policies and career development opportunities. [A.1.1]

Dignity at Work

In the staff survey, 20% of women academics said they had experienced bullying or harassment and just 50% of women academics felt that they would be able to report such incidents without worrying about a negative impact. In addition, <50% of all staff said that they knew how to report bullying and harassment.

The Head of Department takes these statistics very seriously and has introduced the following measures to publicise and improve confidence in Dignity at Work procedures: [A.3.5]

- he has reiterated his commitment to **eradicating bullying and harassment** and reminded Department members that sexist remarks are inappropriate and that everyone should be treated respectfully;
- all academic staff are now required to complete **E&D online training**; other staff groups and PhD students are encouraged to complete it; [A.3.6]
- the SAT ran a well-attended **session on unconscious bias** and will make further online training available later in the year; [A.8.4]
- further **Dignity at Work contacts** have been identified, including an external HR Advisor and dedicated student and researcher contacts who can preserve the anonymity of the complainants;
- the **University's new wellbeing policy** (which encompasses bullying and harassment) has been widely publicised alongside details of the Dignity at Work contacts;
- a summary of how bullying and harassment cases are handled and what actions might be taken as a result is being developed for **online publication**.

(v) **Outreach activities** – comment on the level of participation by female and male staff in outreach activities with schools and colleges and other centres. Describe who the programmes are aimed at, and how this activity is formally recognised as part of the workload model and in appraisal and promotion processes.

An annual survey was introduced in 2015/16 to capture details of all outreach work undertaken by Department members (previously only work coordinated by the Outreach Officer was recorded). This data provides the baseline against which we can measure the success of our efforts to encourage further involvement. [A.5.1]

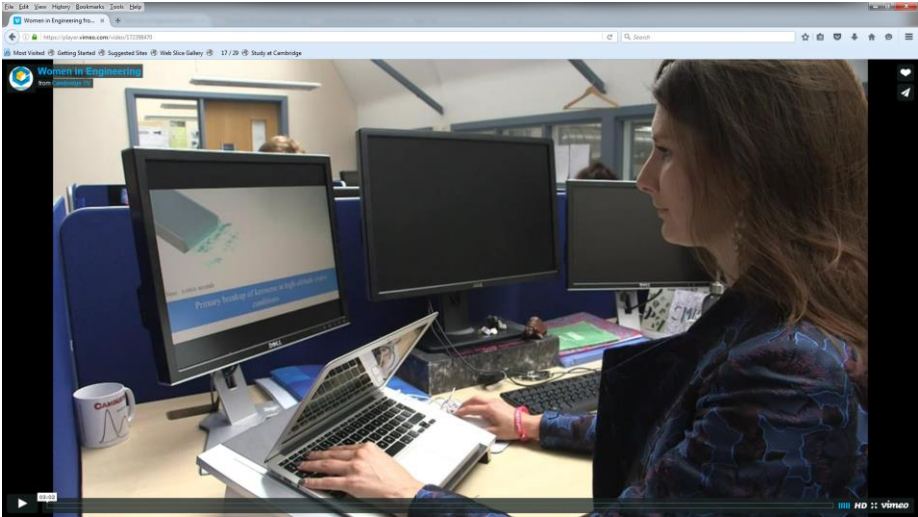
The responses were published on the teaching duties database to encourage others to get involved and so that these activities could be taken into consideration during the allocation of teaching and administrative duties and the appraisal, probation and promotion processes. [A.5.2]

The results were scrutinised by the Outreach Officer and the SAT to see where further coordination or support might be beneficial. They showed that Department members at all levels are involved in a huge array of outreach activities, ranging from large-scale initiatives such as Robogals' robot-building day for 50 Year 9 girls to SAT members Camille Bilger and Dr Jenni Sidey discussing the role of WiE on Cambridge TV. Most academic women were active in outreach activities.

The SAT is collaborating with the Colleges to promote engineering to mature students and plans to do more to capitalise on national events such as British Science Week and the International WiE Day. [A.1.9 & A.5.6]



Year 9 students at a Robogals robotics workshop



SAT graduate student rep Camille Bilger appearing on Cambridge TV to discuss the role of WiE



Families and student volunteers at the Whittle Lab's Open Day

Flexibility and managing career breaks

a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

- (i) **Maternity return rate** – comment on whether maternity return rate in the department has improved or deteriorated and any plans for further improvement. If the department is unable to provide a maternity return rate, please explain why.

The Department monitors maternity and paternity data and uptake of the Returning Carers Scheme. The numbers involved are very small but in the last five years all academic staff who took maternity leave returned to work.

In the same period 50% of researchers who went on maternity leave did not return. All but two of the seven leavers had come to the end of their contracts. We do not know why the other two leavers resigned; in the future the exit questionnaire (described under 'staff data') should capture this information and we will take action as necessary. PIs strive to keep research positions open during and following the maternity leave period, although this can be difficult due to the short-term nature of the positions and funding restrictions.

Staff category	No. staff who took maternity leave	Return rate	Notes
Academic	3	100%	
Research	18	50%	4 members of staff are still on leave so the return rate excludes them.

Table 5: Maternity leave data 2010-2016

"The Department discussed my return including workload and whether I wished to return full-time or part-time. I decided to work part-time for one year during a period of graduated return from maternity leave. This was vital in providing me with the necessary time to adjust and settle into my new lifestyle."

Dr Athina Markaki

- (ii) **Paternity, adoption and parental leave uptake** – comment on the uptake of paternity leave by grade and parental and adoption leave by gender and grade. Has this improved or deteriorated and what plans are there to improve further.

Since 2010 all but two eligible staff members took up their paternity leave entitlement, including academic staff at all levels. We expect the number of applications to increase as the researcher cohort grows and will continue to promote the parental leave policy. [A.9.8]

Staff category	No. staff who took paternity leave	No. staff who took unpaid parental leave
Academic	8	1 (female)
Research	31	3 (all female)

Table 6: Paternity leave and unpaid parental leave data 2010-2016

(iii) **Numbers of applications and success rates for flexible working by gender and grade** – comment on any disparities. Where the number of women in the department is small applicants may wish to comment on specific examples.

See ‘flexible working’ below.

b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.

(i) **Flexible working** – comment on the numbers of staff working flexibly and their grades and gender, whether there is a formal or informal system, the support and training provided for managers in promoting and managing flexible working arrangements, and how the department raises awareness of the options available.

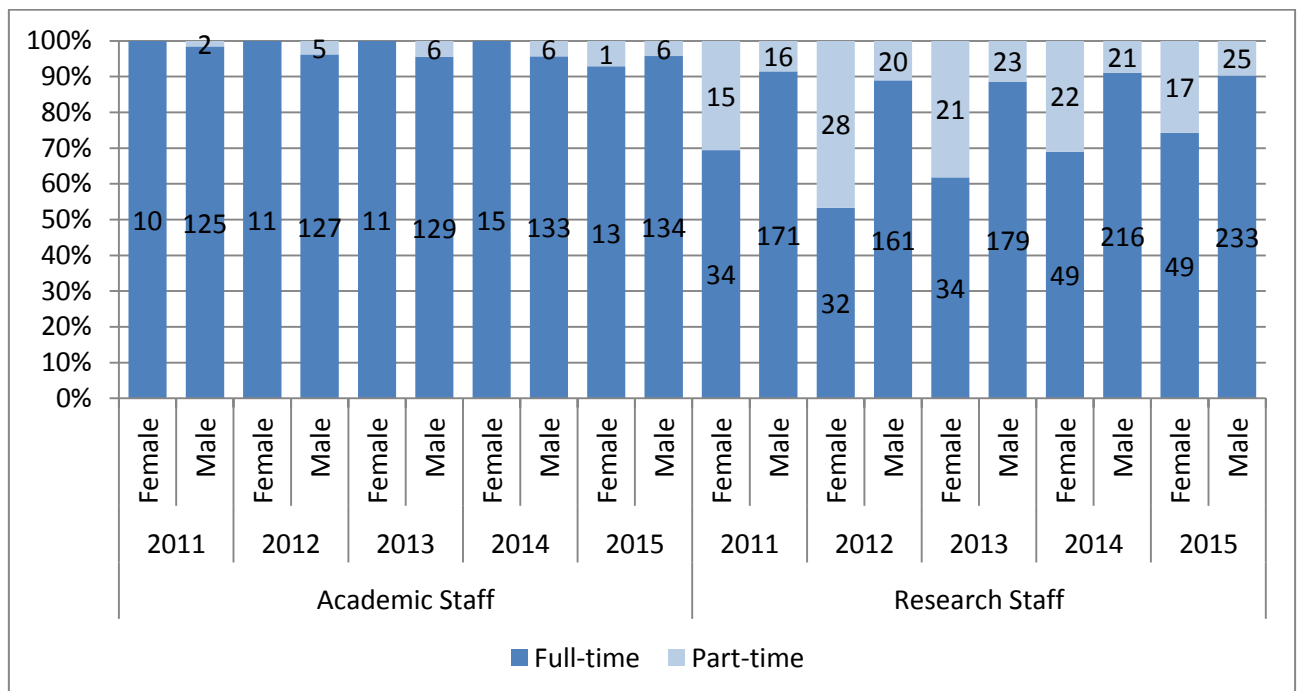


Figure 19: Full-time vs part-time academic and research staff by gender 2011–2015

The University’s Flexible Working Policy is accessible to all staff and is particularly promoted within the maternity package to encourage women to return to work. The Department’s HR staff advise individuals on their options.

Applications to work flexibly in preparation for retirement are increasingly common among academics. Researchers often request flexible working when they launch a start-up and need to reduce their hours to accommodate this new venture.

Other reasons for flexible working requests include: fitting in with a dependant's care arrangements; coping with a disability; and combining part-time University employment with other professionally-related work (if of benefit to all concerned).

Figure 19 shows that the number of academic staff working part-time has increased in the last three years but the overwhelming majority still work full-time (>95% in 2015). A higher proportion of researchers work part-time (c.13% in 2015), with the proportion of part-time women researchers particularly high (c.25% in 2015).

- (ii) **Cover for maternity and adoption leave and support on return** – explain what the department does, beyond the university maternity policy package, to support female staff before they go on maternity leave, arrangements for covering work during absence, and to help them achieve a suitable work-life balance on their return.

The Department promotes the University's Returning Carers Scheme widely via its website. Details are sent to staff who are going on, or returning from, a period of caring (including maternity leave, adoption leave, or leave to care for a dependant). [A.9.9]

The Scheme offers up to £10,000 to assist returning carers who have had a break of more than three months during the last four years in building up their research profiles and other academic activities. This can fund training to support career development, additional childcare costs while the parent is away and costs of a family member or nanny accompanying new mothers to conferences. Relatively few staff are eligible for the scheme: two academics have been awarded funds since 2012 (one male and one female).

"Caring for my daughter meant that I had to drastically limit my travel commitments which impacted on my research. With the help of the Returning Carers Scheme, I was able to attend an international conference. The funding was used to cover indirect childcare expenses which are not covered by research grants and this is why such a scheme is extremely valuable."

Dr Athina Markaki

To cover work while staff are on leave, teaching duties are reassigned and supervision of researchers and contracts may be delegated to a colleague.

As noted previously, staff returning to work are initially given a lighter teaching load and may be given longer to fulfil probation requirements. The Department accommodates requests for teaching to be scheduled around family commitments where possible. Many academics also choose to extend their leave by taking sabbatical leave.

5. Any other comments: maximum 500 words (word count: 522)

Please comment here on any other elements which are relevant to the application, e.g. other STEMM-specific initiatives of special interest that have not been covered in the previous sections. Include any other relevant data (e.g. results from staff surveys), provide a commentary on it and indicate how it is planned to address any gender disparities identified.

Commentary on the results of the staff survey

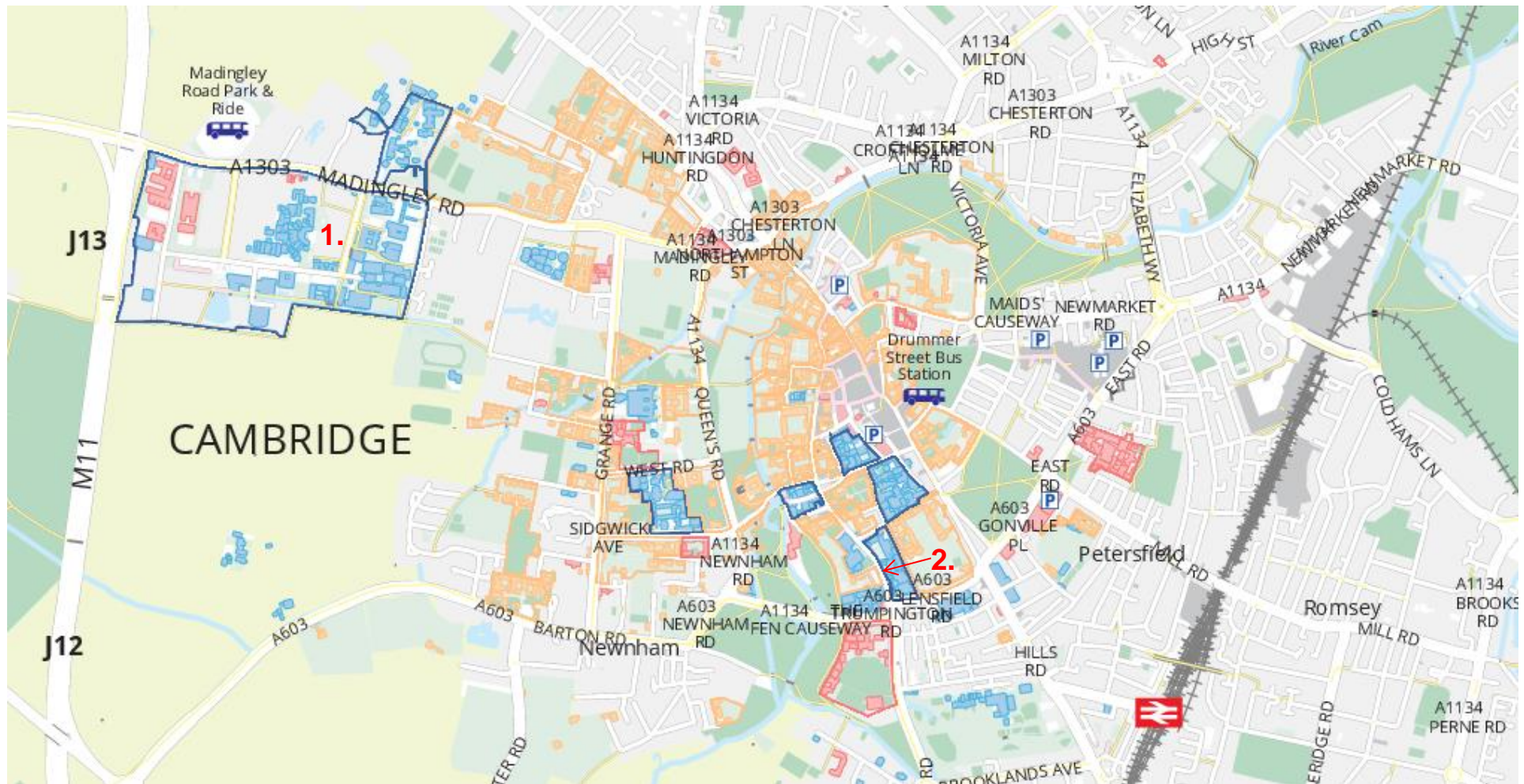
The action plan is heavily informed by the results of the 2015 staff survey, particularly with regard to culture change. The survey data revealed many positives, but the SAT was concerned with the following areas where women academics and researchers responded less positively than their male colleagues; in each case specific actions have been introduced to tackle the underlying issues (see section 3 of the action plan for further details):

- academic women were 14% less satisfied with their working environment than their male colleagues, with a score of only 60%;
- female academics gave the lowest score of any staff category (50%) for 'sufficient support ... to carry out my role', 15% less than male academics;
- women academics scored considerably lower than male academics in 'manager treats me with respect' (14% lower), 'is open to my ideas and suggestions' (26% lower, and the lowest score of any group), 'I am treated with fairness and respect' (14% lower), and 'I feel that the Department values me' (10% lower);
- 3% of men and 15% of women reported that they had experienced unfair discrimination, and 7% of men and 20% of women academics said that they had experienced bullying and harassment;
- only 50% of women academics felt that they would be able to report bullying and harassment without worrying about the negative effects, compared with 70% of male academics;
- only 40% of academic staff, and under 50% of all staff, said that they knew how to report bullying and harassment;
- 23% of women researchers reported that they had experienced bullying and harassment, 18% more than male researchers. Only 41% felt they would be able to report this without it having a negative effect on them, and only 21% knew how to report it;
- just 39% of women researchers felt 'consulted and able to contribute my views before changes are made that affect my job', 12% lower than male researchers;
- women academics felt considerably less informed about what is happening than their male colleagues, in the Department (17% difference), the Division (10% difference, and the lowest score at 55%) and their immediate work area (15% difference).

Progress will be continuously monitored via the working environment consultation, the lab performance and expectations statements and feedback from current staff and leavers. The survey will be repeated in 2018 and the results scrutinised to check that there has been a significant improvement with the satisfaction rates in these areas in response to the actions

that we have taken. The Head of Department and SAT will put further actions in place if necessary to ensure that all members of the Department feel valued, respected and supported. [A.2.3]

Map of the University of Cambridge showing both of the Department of Engineering's sites



1. West Cambridge site: Divisions B & E plus various Research Groups are already based in West Cambridge. Over the next 10-15 years the whole Department will move to West Cambridge.

2. The Trumpington Street site: most of the Department is still based at this site. The West Cambridge site is approximately a 15-minute bicycle ride away and also connected by a regular bus service.

6. Action plan

Provide an action plan as an appendix. An action plan template is available on the Athena SWAN website.

The Action Plan should be a table or a spreadsheet comprising actions to address the priorities identified by the analysis of relevant data presented in this application, success/outcome measures, the post holder responsible for each action and a timeline for completion. The plan should cover current initiatives and your aspirations **for the next three years**.

7. Case study: impacting on individuals: maximum 1000 words (word count: 947)

Describe how the department's SWAN activities have benefitted **two** individuals working in the department. One of these case studies should be a member of the self assessment team, the other someone else in the department. More information on case studies is available in the guidance.

Professor Abir Al-Tabbaa

After undertaking a PhD at Cambridge in the mid-1980s, I worked in industry for 10 years and as a lecturer at Birmingham University. I returned to Cambridge in 1997 as a lecturer and was promoted to senior lecturer in 2001, then to reader in 2005.

I started a family in 2007. Following four months of maternity leave the Department was extremely supportive in allowing me to take two terms sabbatical leave, despite my having taken sabbatical leave three years before. This allowed me to spend a whole year with my son while continuing to work from home on research.

From 2008 to 2012 my movement was severely restricted by the nursery run and elderly parental responsibility, preventing me from travelling to events or initiating collaborations for large research proposals. I asked the Department if I could compensate for this by developing a large research group. The Department strongly supported me, allowing me to hugely exceed the maximum quota of eight PhD students to the extent that I had a group of 25 by 2012. This allowed me to conduct a huge amount of research locally and resulted in a very substantial journal output. I believe this strengthened my application for a professorship significantly when I applied in 2013.



Professor Abir Al-Tabbaa

When the University launched the Returning Carers Scheme in 2012 it was initially for mothers returning to work within four years of the birth of their child. However, the Department made a case for me to the University and as a result the Scheme was extended to five years following

motherhood. The Scheme enabled me to invite a colleague from China to spend a few months working with me here, which compensated for my inability to travel to see him.

The SAP Scheme was also very helpful and I was fortunate to have the then Head of Department Professor Dame Ann Dowling as my mentor. Ann was very supportive and encouraging; she commented on my draft application a few months before the deadline, allowing me time to refine it. I am sure that her advice was instrumental in my promotion to professorship the first time I applied.

I was one of the first women to be promoted to a professorship while striking a good work-life balance, including having a family. I have witnessed with pride the changes that have taken place in the Department over the past few years which acknowledge that academia needs to be made more attractive to women, with a support system that enables women to have both a family and a successful career without significant detriment to promotion and career development.

I am pleased that in contrast to when I first joined the Department and there were no female academics in Civil Engineering and only a handful of female PhD students, the Division now has four female academics, one of whom is on parental leave, and c.30% female PhD students.

Dr Jenni Sidey

I joined the Department as a PhD student in 2011. After completing my PhD in 2015, I worked as a research associate within the same research group for one year. I was hired as a university lecturer within the Department's Energy, Fluid Mechanics and Turbomachinery Division in 2016. Since joining the University I have been supported and encouraged by a Department that has actively worked to help me fulfil my potential as an early career academic researcher and teacher. Indeed, with the Department's backing I have been nominated and shortlisted for the Institute of Engineering and Technology's 2016 Young Woman Engineer of the Year Award.⁹

Although I noticed a lack of female PhD students, research associates and lecturers when I first arrived at the University, I benefited from interacting with the outstanding role models in higher positions that the Department works to make visible and accessible. Whenever I encountered situations in my field in which I felt less respected than my male colleagues, leading to feelings of frustration and isolation, figures within the Department worked hard to ensure I could discuss these issues openly and honestly. Through the Department's mentoring programme I was provided with multiple mentors, both male and female, with whom I could discuss my progress and gender equality initiatives.

These discussions led to my involvement in WiE outreach programmes. In 2013, I co-founded Robogals Cambridge, a student-run organisation aimed at encouraging young women to consider engineering and technology careers by hosting robotics and programming workshops. I also acted as a PhD and postdoctoral representative for the Department's WiE Forum and

⁹ Department note: the winner of the Young Woman Engineer of the Year will be announced on 1 December 2016 (the day after the Silver Award submission deadline). It is a huge achievement to have made the shortlist, as the five finalists are of exceptional calibre.

SAT. In this role, I organised and ran events aimed at addressing issues affecting women in the Department at early stages in their career, from undergraduate to early lecturer level. The Department has supported me completely in all these activities, including hosting many of my events and workshops, directly funding Robogals Cambridge and WiE forum events, promoting both programmes, and providing feedback and suggestions for future events.

Since 2011, I have seen the results of the Department's efforts to improve the environment it provides for female academics and undergraduates. I have seen multiple research groups within my own Division with gender-even groups of PhD students. I have met female postdocs who have been well supported by maternity care schemes within the Department. Perhaps most importantly, I have witnessed an overwhelming acknowledgement of the need and direct support for a change in the gender-biased culture of science and engineering subjects. My Department has been a true leader by facilitating these changes and encouraging this acknowledgement. These efforts, exemplified by the growing number of women in the Department at multiple levels, is one of the reasons why I chose to continue my career at the University of Cambridge.



Dr Jenni Sidey

Progress update on the Athena SWAN Bronze Action Plan 2013–2016

Objective	Action(s) achieved	Impact
1. Awareness (of gender equality issues and initiatives)		
<p>Commitment: To change business practices</p>	<ul style="list-style-type: none"> • The SAT is now a standing committee within the Department. • The Head of Department reports on progress with the WiE initiative to the main departmental committees and via the departmental Bulletin. • SAT membership has been broadened to include representation from all grades and career stages, plus students and key support staff. <hr/> <ul style="list-style-type: none"> • Procedures have been introduced to capture and disseminate the gender data required for the annual reports that are considered by the main departmental committees. • Exit questionnaires were introduced in 2015 for researcher leavers. <hr/> <ul style="list-style-type: none"> • New guidelines for improving the gender balance of the Department’s committees, without overburdening women academics, have been agreed and widely publicised. 	<ul style="list-style-type: none"> • The SAT has a much higher profile and reach. All reps have been active in raising awareness of gender equality and consulting their colleagues, which has enabled us to drive change more effectively (e.g. the dramatic increase in E&D training completion rates). <hr/> <ul style="list-style-type: none"> • Broader consideration of gender statistics should facilitate a joined-up approach to tackling some of the more complex issues, e.g. reasons for researchers leaving and whether more could be done to retain them. <hr/> <ul style="list-style-type: none"> • The impact of the guidelines will be assessed over the next submission period as we see whether the gender balance improves and more women get involved in committee work.

<p>Engagement and Department initiatives: To help change the culture in the Department and to raise awareness of the WiE initiative</p>	<ul style="list-style-type: none"> • The WiE website has been developed to form the focal point of the WiE initiative: www-womeninengineering.eng.cam.ac.uk • A WiE logo has been created and is included on the Department's website (linked directly to the WiE website) and communications material. 	<ul style="list-style-type: none"> • Google Analytics have been introduced to track web usage. The SAT will review these statistics on an annual basis and use them to inform the development of the site.
	<ul style="list-style-type: none"> • In 2015/16 the SAT ran a competition to identify inspirational women engineers from outside the Department. • The aim was to raise awareness of the achievements of women in engineering to help inspire others and increase the visibility of women in the Department (previously nearly all the portraits were of men). 	<ul style="list-style-type: none"> • 60 entries were received from staff and students (two thirds of the entrants were women), of which 20 were shortlisted and printed. • The winning entries are prominently displayed in the Department and a pamphlet of all the entries is available on the WiE website. • c.50 staff and students attended the prize-giving and lunch. • Feedback about the initiative and event was very positive.
	<ul style="list-style-type: none"> • The SAT published profiles of women who are currently in the Department. • These covered a range of career stages and disciplines and discussed background, motivation, overcoming challenges, work-life balance, support and advice to others. 	<ul style="list-style-type: none"> • 25 profiles were published on National Women in Engineering Day 2016 and the resource is still growing. • Feedback shows that other women find the profiles inspirational. • Department members promoted the role of WiE in many high profile media including Cambridge TV, BBC Radio 4 and the 2015 University project 'The Meaning of Success'.
	<ul style="list-style-type: none"> • The SAT has liaised closely with the new Cambridge HeForShe campaign via graduate representative, Camille Bilger, who is the campaign's Acting Chair. • The campaign's aim of engaging men as agents of change for the achievement of gender equality is extremely pertinent to the Department. 	<ul style="list-style-type: none"> • HeForShe events are publicised via the WiE list and website and the Acting Chair reports on progress with the campaign at each SAT meeting.

	<ul style="list-style-type: none"> Champions have been appointed for each Division; all are SAT members. The Head of Department is the Athena SWAN Departmental Champion and Chair of the SAT. The SAT has met, and regularly communicated with, Divisional Administrators to embed the data-gathering processes. 	<ul style="list-style-type: none"> Divisional Champions have been very active in increasing engagement with the Athena SWAN initiative via direct communication with their colleagues. Their impact is illustrated by the increase in the E&D training completion rate for academic staff from 17% in September 2015 to c.100% in February 2016 following interventions by Divisional Champions.
Outreach: To promote Engineering to Schools	<ul style="list-style-type: none"> An annual outreach survey was introduced in 2015/16 to capture details of all outreach work undertaken by Department members (previously only work coordinated by the Outreach Officer was recorded). Responses were published online to encourage others to get involved and so that these activities could be taken into consideration during the appraisal, probation, duties allocation and promotion processes. 	<ul style="list-style-type: none"> Staff and students are involved in a huge array of outreach work (127 events were supported by 86 unique volunteers, a total of 721 volunteer-hours were given). The results enable us to identify areas where further coordination or support may be beneficial and provide the baseline against which the success of efforts to encourage further involvement in outreach can be measured.
	<ul style="list-style-type: none"> The Directors of Studies Committee receives annual reports on undergraduate applications and admissions data by gender. 	<ul style="list-style-type: none"> The Committee scrutinises the data to identify trends and/or actions which could increase the proportion of successful women applicants.
2. Culture		
Culture: To encourage a positive and open environment	<ul style="list-style-type: none"> The Head of Department gave a 'state of the union' presentation that included an update on actions taken in response to the staff survey. Two new departmental social events have been introduced: a Christmas party and a summer garden party. 	<ul style="list-style-type: none"> The events are very well attended (generally with several hundred participants) and feedback has been positive. Consideration was given to inviting families to the social events but the numbers involved made this impractical. Families are instead often invited to group and/or Divisional events.
	<ul style="list-style-type: none"> A staff survey was conducted in 2015 that covered a wide 	<ul style="list-style-type: none"> Each Division held meetings to discuss the results and

	<p>range of topics, e.g. satisfaction with the work environment and available support, PPD and career development, communications and work-life balance.</p> <ul style="list-style-type: none"> • The response rate was 92%. • A summary of the results was made available to all staff. More detailed breakdowns by occupation and gender were considered by the Academic Committee and SAT. 	<p>agree actions to address the priorities for them.</p> <ul style="list-style-type: none"> • Follow-up also included focus groups to explore particular concerns. Resulting actions included: <ul style="list-style-type: none"> – radical transformation of the management of technical staff; – new procedures and guidance for handling bullying; – additional support for researchers; – staff training programme to encourage development and career progression. • The Head of Department used his presentation to the Department to communicate changes made in response to the survey. • The survey data provides a valuable benchmark against which progress can be measured when the survey is repeated in 2018.
	<ul style="list-style-type: none"> • The WiE forum is now an established network for discussion and training. Events are held on a termly basis; all members of the Department are welcomed but topics are particularly geared to issues raised by women. • A mailing list has been set up so that details of events, training and other news can be sent directly to all women students and staff. 	<ul style="list-style-type: none"> • Forum events typically have 60 attendees (two thirds of whom are women), including staff and students at all levels. • Feedback shows that attendees value the opportunity to discuss topical issues and network with colleagues from across the Department.
	<ul style="list-style-type: none"> • In 2015/16 an online form was introduced to gather information about group and/or divisional events. • An annual report comes to the SAT so that we can monitor activities and identify good practice or groups that would benefit from more events. 	<ul style="list-style-type: none"> • The survey revealed that some groups are extremely active and hold many social and developmental events. • Divisional Champions share the good practice with colleagues to encourage all groups to foster a positive and open environment.

	<ul style="list-style-type: none"> Measures taken to improve the experience of researchers include: better communication via a new email group and event news server and the inclusion of information about the Postdoc Committee in the induction package. The Postdoc Committee's Divisional reps have trialled different ways of engaging with their fellow researchers. 	<ul style="list-style-type: none"> Division C's model of regular meetings for researchers, which focus on matters such as the staff survey results and are backed and led by the Head of Division, has been very successful at engaging researchers and stimulating constructive discussion. The Postdoc Committee is promoting this model to other Divisions.
3. Monitor & Review Data		
Staff appointment: To work towards addressing gender imbalance in applications and appointments	<ul style="list-style-type: none"> Data on staff appointments is reviewed annually by the Academic Committee. New criteria for Search Committees were introduced in 2014 that require them to say what actions they have taken to increase the number of women applicants. 	<ul style="list-style-type: none"> Four women lecturers and one female professor have been appointed in the last six months, indicating that the measures to increase the proportion of academic women staff are working.
	<ul style="list-style-type: none"> Completion of the University's E&D training is now compulsory for all those involved with recruitment or who have line management responsibilities. The training has been incorporated into the induction so that it is completed by all new staff. 	<ul style="list-style-type: none"> There is a shared understanding of E&D legislation and good practice. The Department's target is for all staff to complete the training.
Staff development: To support staff in personal and professional development	<ul style="list-style-type: none"> The Department carefully monitors the progress of all staff on probation. 	<ul style="list-style-type: none"> No staff member has failed probation during the submission period.
	<ul style="list-style-type: none"> The Department monitors maternity and paternity data on an annual basis. During the transition back to work staff are given a lighter workload and more time to fulfil the probation requirements (if required). The Returning Carers Scheme is promoted to all eligible staff returning from a period of extended leave. 	<ul style="list-style-type: none"> All academic staff who have taken maternity leave in the last three years have returned to work. Since 2010 all but two staff members have taken up their paternity leave entitlement. Participants on the Returning Carers Scheme report that it is highly beneficial in facilitating their return to work. The new training programme encourages staff

	<ul style="list-style-type: none"> • A staff training programme, including mentoring and management training, was launched in 2016. 	development and career progress and aims to improve mentor support for new staff.
Student applications and admissions: To work towards improving gender balance for applications and admissions	<ul style="list-style-type: none"> • Data on student applications and admissions is monitored on an annual basis by the main teaching-related committees and the SAT. • Two focus groups were held with 16 female first and second year undergraduates to discuss why they applied to the Department and whether anything further could be done to encourage more female applicants. 	<ul style="list-style-type: none"> • Actions taken as a result of the focus groups include: <ul style="list-style-type: none"> – improvements to admissions materials to increase the prominence of women in images and case studies; – development of a student ambassador programme and resource pack; – fostering links with the Physics Teacher Network.
4. Recruitment Practices & Procedures		
Procedure changes: To work toward improving and exchanging good recruitment practices across the Department	<ul style="list-style-type: none"> • As mentioned above, the new procedures for Search Committees were introduced in 2014. • Selection criteria have been introduced for academic and research staff. • Details of family-friendly policies (e.g. maternity leave, flexible working and commitment to Athena SWAN) have been included in the further details for all academic and support posts. 	<ul style="list-style-type: none"> • Following a recent review the University has adopted a very similar scheme to that used in the Department. • There is greater consistency in recruitment practices across the Department. • The proportion of women applicants to academic posts has increased and, as detailed above, five women have been recruited to academic posts in the last six months.
5. Personal & Professional Development (PPD)		
Students	<ul style="list-style-type: none"> • The Department's Researcher Development Coordinator offers one-to-one support to research students (55-75 students p.a.) 	<ul style="list-style-type: none"> • Participants comment that the sessions are extremely helpful for their career development.

Academic staff	<ul style="list-style-type: none"> • Since 2013 all candidates for promotion have been encouraged to take up the University's SAP CV scheme. 	<ul style="list-style-type: none"> • Eight women and six men have taken up the scheme. This represents a high proportion of women who are eligible for promotion. Participants commented that it was a very constructive process.
	<ul style="list-style-type: none"> • The mentoring scheme for academic staff has continued, and the provision of training for mentors has increased. 	<ul style="list-style-type: none"> • Staff report that the scheme is helpful but there is scope for further development: see A.9.3 in the Silver Award plan.
All staff and graduate students	<ul style="list-style-type: none"> • The staff review scheme for academic staff has continued and will be converted to an online system by the end of 2016. • In 2015/16 the Academic Committee asked PIs/Group Leaders to use staff reviews to discuss career progression opportunities with their staff. • The Department has stipulated that reviewers and reviewees have joint responsibility for ensuring that appraisals happen according to schedule. • A staff development programme has been launched that provides more in-house and external training. This includes management training, which is open to all staff. 	<ul style="list-style-type: none"> • The HR Office is reviewing the appraisal process and providing further training for reviewers. • Feedback and data will be monitored to ensure that compliance with the schedule and satisfaction with the process increases. • Staff training needs indicated in staff reviews are now managed by the Department's HR Advisor and reflected in the staff training programme.
	<ul style="list-style-type: none"> • A peer-to-peer mentoring scheme for researchers was rolled out across the Department (based on a successful pilot). • The Postdoc Committee runs training sessions twice a term, with funding provided by the Divisions. 	<ul style="list-style-type: none"> • From March 2016, every new researcher has been allocated a trained mentor and, by May 2016, 83 researchers had been trained (>20% of the cohort). • Feedback shows that mentors and mentees value the programme.
	<ul style="list-style-type: none"> • University leadership programmes are actively promoted to researchers. 	<ul style="list-style-type: none"> • Feedback from participants has been very positive but there are only a small number of places available so the impact is limited.

6. Management and representation		
<p>Representation: To maintain a good gender balance on all departmental Committees</p>	<ul style="list-style-type: none"> The gender balance of the Department's main committees is reviewed annually by the SAT and Academic Committee. New guidelines have been developed and widely publicised that aim to improve the gender balance without overburdening female academic staff. 	<ul style="list-style-type: none"> The proportion of women on some of the key committees has increased since the Bronze submission. See A.2.5 in the Silver action plan.
	<ul style="list-style-type: none"> The Department's policy on meeting times was revised in 2015 to state that, where possible, meetings should be held between 09.30 and 15.00. (rather than 09.00-17.00 as at the time of the Bronze submission). 	<ul style="list-style-type: none"> As noted above, the proportion of women on some of the key committees has increased since the Bronze submission. See A.2.5 in the Silver action plan.
	<ul style="list-style-type: none"> All committee members have completed E&D's online training. 	<ul style="list-style-type: none"> As noted above, there is now a better shared understanding of E&D legislation and good practice within the Department.
<p>General contribution to workload: To ensure an even distribution of duties to female staff</p>	<ul style="list-style-type: none"> The SAT launched a general contribution data-capturing exercise in 2015/16. The exercise will be repeated each year. The results are visible to all staff and, together with the results of the outreach survey, they provide a far more comprehensive picture of the full workload for each staff member than was possible before. 	<ul style="list-style-type: none"> The responses provide useful benchmarking data and are taken into consideration in the allocation of teaching and administrative duties as well as during the appraisal, probation and promotion processes. Staff feedback has been positive about the transparency and fairness of the system, particularly for female academic staff, who typically undertake a substantial amount of administrative and outreach work.

Athena SWAN Silver Action Plan 2016-2020

As discussed in section 5, many of the following actions are designed to address findings of the 2015 staff survey. One major criterion for assessing the success of the actions will be whether, and by what margin, the satisfaction rates with the corresponding question(s) have improved when the survey is repeated in 2018. The Department aims for the best possible satisfaction rates in all categories, and for women and men to have an equally positive experience. We are mindful that culture change is a lengthy process, so have given targets which we believe are ambitious yet achievable within the three-year period between the staff surveys.

In the 'person responsible' column names are given only when responsibility is not attached to a role.

High priority is indicated by **bold text** in the ref column.

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
1. Raise the profile of women in engineering within the Department and among the public						
1.1	Continue to develop and expand the WiE website	<p>The site is the focal point of the WiE initiative and is central to raising the profile of WiE.</p> <p>The site needs to be current and comprehensive for it to promote the WiE initiative effectively.</p> <p>Including profiles from female alumni will demonstrate their successes in a wide range of disciplines and help inspire others. Engaging alumni in this way will add a new dimension to the site.</p>	<p>Expand profile section by sending annual call for profiles to all Department members.</p> <p>Invite female alumni to contribute profiles (several have already offered after visiting the WiE website).</p> <p>Keep news and events sections updated by tapping into WES Bulletins, plus other engineering and university Athena SWAN initiatives.</p> <p>Add clips of women talking about their experiences in engineering.</p> <p>Invite comments from WiE forum members each year about their impressions of the site and how they would like to see it develop.</p> <p>Add comments section to website so that viewers can comment directly.</p>	<p>Contact alumni by April 2017</p> <p>Publish first set of clips before 2017 admissions round</p> <p>Ongoing development: annual review in June</p>	SAT Secretary	<p>Add at least 10 new profiles p.a. (from 2016 benchmark of 25).</p> <p>Publish details of at least four WiE-related events a month.</p> <p>Google analytics show year-on-year increase in traffic (from benchmark of 927 page views in 2016).</p> <p>Add five clips before 2017 admissions round. Evaluate reception by surveying WiE members and use feedback to determine content and style of further clips.</p> <p>>80% positive feedback in annual survey about the content of the site, plus suggestions for further development.</p>

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
1.2	Continue to develop the WiE forum and improve communication of related events	<p>WiE forum events are well established and received, but communication of related events has been patchy and we have not made full use of social media to promote the WiE initiative.</p> <p>Using social media effectively will be key to communicating the WiE initiative more widely.</p> <p>The SAT has set up a dedicated Facebook group and will explore making more extensive use of Twitter.</p>	<p>Continue to hold termly lunchtime events, taking account of suggestions made by attendees.</p> <p>Record event data (outline, attendees by gender and role) and publish reports on the WiE website.</p> <p>Ensure attendees' feedback is captured and used to inform future events.</p> <p>Establish mechanisms for promoting WiE forum and related events via social media. Evaluate the effectiveness of these in annual survey of WiE forum members and amend as necessary.</p>	<p>Termly events</p> <p>Ongoing development: annual review in June</p>	<p>Forum coordinators: Tim Minshall, Div E Champion and Camille Bilger, SAT Graduate Rep</p>	<p>>80% positive feedback from forum event attendees.</p> <p>>80% positive feedback in annual survey of WiE members.</p> <p>Increased attendance at WiE Forum and related events (from typical attendance rate of 60 in 2016).</p> <p>Year-on-year increase in the number of WiE Twitter followers and members of WiE Facebook group (from benchmark of 1,818 followers in 2016).</p>

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
1.3	Highlight successes of women in the Department	<p>WiE forum members have commented that showcasing the achievements of women engineers and describing how they overcame challenges will inspire others.</p> <p>Student focus groups reported that the public perception of engineering as a career for women is still poor; many people are unaware what a diverse and rewarding career it can be. The students also commented that many Physics teachers do not promote engineering to their female students.</p>	<p>Communications Office to seek out and highlight achievements of women via news articles and ensure that they are flagged via the WiE website, Twitter and Facebook sites.</p> <p>SAT members to encourage colleagues to let the Communications Office know of any WiE-related news.</p> <p>SAT to log number of WiE-related articles published on main departmental website in 2017 to establish benchmark.</p> <p>Convene focus groups of A-level students and teachers, plus current students, to consider impact of the WiE initiative on their perception of engineering.</p>	<p>Ongoing development: annual review</p> <p>Establish benchmark by November 2017</p> <p>Focus groups to be held in 2018</p>	<p>Comms Office</p> <p>All SAT members</p>	<p>Every Department newsletter to feature at least one WiE-related article.</p> <p>Publish at least two news stories on the WiE website each month.</p> <p>Once WiE news benchmark is established in 2017 exceed benchmark in 2018 and 2019.</p> <p>>80% positive feedback from focus groups that the WiE initiative (including the images and website etc.) has improved their perception of engineering, been inspirational to them and raised their awareness of the achievements of women engineers.</p>

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
1.4	Celebrate the achievements of women in engineering	<p>WiE forum members have commented that raising the profile of women engineers and celebrating their successes will inspire others.</p> <p>As noted in A.1.3, the public perception of engineering as a career for women is still poor.</p>	<p>Continue to display the 'inspirational women engineers' exhibition outside the Library and produce copies for display elsewhere around the Department.</p> <p>Convene a focus group of WiE members to consider launching a similar competition (or with different parameters e.g. under 30).</p> <p>Build in an evaluation of the competition to measure its impact on staff and students.</p>	2018	Comms Office All SAT members	<p>Every building to include prominent images of women engineers.</p> <p>Focus group met and suggestions considered by the SAT.</p> <p><i>[See also feedback from A-level focus group noted in A.1.3]</i></p>
1.5	Introduce termly talk series	Forum members have asked for a talk series at which women engineers (from academia and industry) share their experiences and thoughts on how to have a successful career in engineering.	<p>Talks from successful women in different branches of engineering, with opportunities for attendees to ask questions and network.</p> <p>Organise by Division to ensure coverage and use existing contacts.</p> <p>Record event data and ensure attendees' feedback is captured and used to inform future talks.</p>	Termly from November 2016	Series coordinator: Athina Markaki, Div C Champion Individual talk organisers: DivChs	<p>One talk held per term.</p> <p>>80% attendees report that the talks have raised their aspirations.</p> <p>Attendance rate >50, including staff and students from all Divisions.</p> <p>>80% positive feedback in annual survey of WiE forum members about content of talks and networking opportunities.</p>

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
1.6	Inaugural Department lecture to be given by a woman	Launching a prestigious, high profile annual lecture with a women speaker would demonstrate that women are successful at the highest levels in engineering and give the Department an opportunity to showcase its WiE-related work in the related press.	<p>Identify funding and speakers.</p> <p>Inaugural lecture to be given by a woman.</p> <p>Communications Office to ensure that related press showcases WiE initiative.</p> <p>With the speaker's permission, publish a recording of the lecture on the Department's YouTube channel alongside other WiE-related clips.</p> <p>Record event data and ensure attendees' feedback is captured and used to inform future lectures.</p>	Aim to hold first lecture in 2018	HoD Comms Office	<p>Lectures have full attendance, including distinguished guests from industry and other universities.</p> <p>>80% positive feedback from attendees of first lecture that it has raised the profile of the WiE initiative as well as promoting the Department.</p> <p>WiE initiative features in news articles.</p> <p>Recording of lecture published.</p>

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
1.7	Increase diversity of images of women on the Department's website and in admissions literature	<p>Student focus groups reported that the public perception of engineers is still that they all work in hardhats and boiler suits. Currently the same few images are used repeatedly on the Department's site and related media, which does not reflect the diverse backgrounds and activities of the Department's women engineers.</p>	<p>Set up a WiE Flickr channel so that images of women are readily accessible for use within the Department.</p> <p>Encourage event coordinators to take pictures featuring women and tag them on the WiE Flickr channel.</p> <p>Ask A-level and current student focus groups about impact of the new images on their perception of engineering as a career for women.</p>	<p>Set up Flickr channel by January 2017</p> <p>Focus groups to be held in 2018</p>	Comms Office	<p>Well-populated WiE Flickr channel, with at least 50 new images added p.a.</p> <p>Department's website to feature images of women in wide range of engineering contexts.</p> <p>>80% positive feedback from focus groups that the images have improved their perception of engineering as a career for women.</p>
1.8	Include more multimedia clips of women on the Department's website	<p>Student focus groups reported that students are particularly engaged by video clips (showing real-life situations rather than just polished promotional material).</p> <p>Currently the WiE website has very little multimedia material.</p>	<p>Publish clips featuring women (e.g. mock admissions interviews, notable achievements, students at work in labs and on projects).</p> <p>Ask A-level and current student focus groups about the impact of the new clips on their perception of engineering as a career for women.</p> <p>Encourage students to create videos to reflect their experience.</p>	<p>First clips published by 2017 admissions round</p> <p>Focus groups to be held in 2018</p>	Comms Office Student and Postdoc SAT reps	<p>At least five videos featuring women students published on the Department's WiE and YouTube sites p.a., including some created by students.</p> <p>>80% positive feedback about the new material from focus groups and ideas for further developments.</p>

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
1.9	Capitalise on national initiatives	International Women in Engineering Day, British Science Week/Cambridge Science Festival, and the HeForShe Campaign provide opportunities to raise the profile of the Department's WiE initiative and to reach a broader audience than might normally be drawn to the WiE website and the Department's outreach events.	<p>Promote the WiE initiative more heavily through further engagement with these initiatives.</p> <p>Hold high profile events to celebrate International Women in Engineering Day, ideally to tie in with each year's theme.</p> <p>Use publicity around International Women in Engineering Day to promote WiE agenda through press.</p> <p>Pilot HeForShe initiatives.</p>	Ongoing development: annual review in June	Outreach Officer Comms Office HeForShe Acting Chair	<p>Events and tie-in articles held each year on International Women in Engineering Day.</p> <p>>80% positive feedback from attendees that the events have raised their awareness of the WiE initiative.</p> <p>WiE featured in the British Science Week/Cambridge Science Festival literature on an annual basis.</p>
2. Regularly monitor and review data and committee membership by gender and ensure that the workload allocation processes are fair and transparent						
2.1	Continue regular SAT meetings	The SAT is responsible for overseeing the Athena SWAN initiative within the Department: regular meetings are needed to establish progress with the actions and to plan further developments.	<p>Build momentum for culture change and drive for equality.</p> <p>Expand membership to include representatives from all staff groups (in accordance with the post-May 2015 Athena SWAN Charter).</p>	<p>Quarterly meetings from February 2017</p> <p>New SAT membership in place by April 2017</p>	HoD & SAT Secretary	<p>>80% attendance at meetings.</p> <p>All staff and student groups represented on SAT.</p> <p>Each SAT member has responsibility for particular actions.</p>

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
2.2	Set standard term for Divisional Champions and stagger start dates	Bringing new members onto the SAT will increase the proportion of staff who have a strong awareness of, and commitment to, the Athena SWAN initiative, as well as invigorating the SAT with fresh ideas and energy.	Set standard term at three years. Ask Heads of Division to nominate staff who could take on the role when the current term expires.	From January 2017	SAT Secretary	Pool of current and former Champions within each Division. SAT includes new and established Champions to balance experience with new ideas.
2.3	Re-run staff survey to assess progress	Re-running the survey will enable the SAT to assess the impact of its actions and what the priorities should be for further work.	Re-run survey and analyse results by gender and role. Compare results with those from the 2015 survey, assess where progress has been made and identify focus areas.	2018	HoD & SAT Secretary	Results to show improved satisfaction in most areas. Actions identified that could further enhance staff experience and taken forward by SAT.
2.4	Analyse and follow through annual gender data reports	The annual reports produced by E&D enable the Department's committees to assess progress and determine what the priorities should be for further work.	SAT to produce analysis of annual gender data reports for consideration by the Department's committees. SAT to build priorities into the ongoing action plan and ensure that they are followed through.	Annually in February	SAT Secretary	Analysis used to identify actions that could further improve the experience of staff and students. Actions implemented and impact tracked in subsequent year's data.

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
2.5	Improve the gender balance of the Department's committees without overloading female academic staff	There are still relatively few women on most of the Department's committees. There is a risk of administrative overload for women who sit on multiple committees or fear that they are the 'token woman'.	Review membership annually and follow up with unbalanced committees, prioritising those where women can have the greatest impact. Invite SRAs and College Fellows to join committees as a career development opportunity.	Annually in February	HoD & SAT Secretary	All committees to have at least two women members. Increase in proportion of women members and representation from wider range of women staff compared to 2016 benchmark (see table 4 for gender balance of each committee).
2.6	Reward good citizenship	Some staff undertake significant 'good citizen' activities which benefit the Department. Until now this has not been factored into the workload model, which may disproportionately affect women staff and does not incentivise others to participate.	Re-run general contribution data-gathering exercise, ensuring that responses can be tracked by Division. Make data accessible to all staff online and incorporate it into the workload allocation process.	Annually	HoD & SAT Secretary	Staff report that the work allocation model is fairer as it takes the full range of activities into account and is transparent. Staff more willing to take on administrative and pastoral roles as they will be factored into the workload model.

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
3. Facilitate a healthy and constructive working environment for all members of the Department						
3.1	Improve internal communications	<p>The staff survey revealed that women academics felt significantly less informed than their male counterparts (60% women were satisfied compared to 77% men). The same pattern was observed for researchers (64% compared to 70%).</p> <p>The survey also found that only 33% female staff (and 29% male) felt that there was good communication between different parts of the Department.</p>	<p>Council membership opened to all interested staff and students and format of meetings changed to presentations on departmental developments and themes (including staff survey follow-up and WiE-related work).</p> <p>Expand SAT membership to improve communication with all staff and student groups (see A.2.1).</p> <p>Divisional Champions continue to liaise with their colleagues (see A.3.2)</p> <p>HoD to continue to communicate actions taken in response to the staff survey(s).</p>	<p>Council changes in place by January 2017</p> <p>Revised SAT membership in place by April 2017</p> <p>Assess impact of actions in 2018 staff survey</p>	HoD & DivChs	<p>2018 staff survey to find that:</p> <ul style="list-style-type: none"> • >75% women academic and research staff feel well informed about what is happening in the Department; • >75% staff report that communication between different parts of the Department has improved.

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
3.2	Consult staff about their working environment	<p>The staff survey revealed that:</p> <ul style="list-style-type: none"> only 60% academic women were satisfied with their working environment, 14% less than academic men (figures for researchers were 62% and 69% respectively); only 60% academic women would recommend their Division as a great place to work (18% lower than academic men). <p>The consultation will demonstrate commitment to improving the working environment for all and explore reasons for the disparity between men and women's experience.</p>	<p>Divisional Champions to convene working parties with staff and student reps (including women from all levels) to discuss their work environments and develop action plans to address any concerns.</p> <p>The working parties will particularly explore why women academics and researchers are less satisfied than their male colleagues, and what measures could be put in place to address this.</p> <p>NB. the outcomes of this consultation will inform A.3.3 and A.3.4.</p>	<p>Action plans in place by April 2017</p> <p>Review impact in 2018</p> <p>Review and revise action plans by 2019</p>	<p>Consultation coordinator: Andy Wheeler, Div A Champion</p> <p>Local convenors: DivChs</p>	<p>Gender-based issues identified, explored and actions agreed.</p> <p>SMART action plans to enhance the working environment for all developed for each Division.</p> <p>Good practice identified and shared via Divisional Champions.</p> <p>Impact evaluated in 2018 staff survey:</p> <ul style="list-style-type: none"> >75% all staff groups satisfied with their working environment; >75% all staff groups would recommend their Division as a great place to work. <p>Action plans reviewed and revised after survey.</p>

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
3.3	Review the working practices of all research groups	<p>Reviewing the working practices of research groups will explore why just 55% academic women felt that their immediate manager was open to their ideas (compared to 81% men) and why just 75% of women academics felt that they were treated with respect by their immediate manager (14% less than men).</p> <p>This review is also part of the Department's preparation for the next REF exercise.</p>	<p>Research Office to lead reviews with each group to share good practice and address concerns, particularly in relation to the disparity between the experience of male and female academics.</p> <p>NB. these reviews will be informed by the working environment consultations discussed in A.3.2, which will explore many of the same issues but on a Divisional, rather than research group, basis.</p>	<p>Ongoing programme of reviews in lead up to REF 2021</p> <p>Heads of Divisions will determine the priority order for the reviews</p>	Research Office	<p>2018 staff survey to find that:</p> <ul style="list-style-type: none"> • >75% all staff groups satisfied with their working environment; • >75% academic women report that their manager is open to their ideas; • academic women report that they feel equally well respected by their immediate manager as their male colleagues.

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
3.4	Embed and review the impact of lab expectation and performance statements	<p>Staff have reported that some research groups have unreasonable expectations (e.g. about working hours) which might disproportionately affect staff with caring responsibilities.</p> <p>Requiring every research group leader to define their expectations will enable the Department to check that they are reasonable and establish guidelines on the working environment, safety, out-of-hours contact and PPD activities.</p>	<p>All research groups to produce and agree a statement. Consideration given to factors that might particularly improve the working environment for women and enable staff to strike a good work-life balance (informed by findings of A.3.2)</p> <p>Senior Management Team to review all statements and challenge any inappropriate expectations.</p> <p>Assess value of these statements via group review meetings and 2018 staff survey.</p> <p>DivChs to share good practice with their colleagues.</p>	<p>Statements in place by June 2017</p> <p>Review impact in 2018</p>	<p>Researcher Development Coordinator</p>	<p>2018 staff survey to find that:</p> <ul style="list-style-type: none"> • >75% all staff groups are satisfied with their working environment (up from 63% overall in 2015); • >75% academic women to recommend their Division as a great place to work (up from 60% in 2015). <p>Fewer comments about inappropriate expectations and behaviours noted in next staff survey and researcher exit questionnaires.</p> <p>DivChs report that good practice has been adopted more widely.</p>

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
3.5	Publicise and improve confidence in Dignity at Work procedures: reduce incidents of bullying and harassment	<p>The staff survey revealed that a higher proportion of female respondents had experienced bullying and harassment (20% academic women and 23% women researchers compared to 7% male academics and 5% male researchers respectively).</p> <p>Female staff were also more worried about the consequences of reporting such cases (50% academic women and 59% women researchers compared to 30% and 43% men respectively).</p> <p>In addition the survey showed that just 40% academic women and 21% women researchers knew how to report bullying or harassment.</p>	<p>HoD to reiterate zero tolerance policy on bullying and harassment.</p> <p>Continue to promote details of the Dignity at Work contacts to all Department members, highlighting the new external HR Advisor staff contact and dedicated student and researcher contacts who are able to preserve the anonymity of the complainants.</p> <p>Publish statement about how bullying and harassment cases are handled and what actions might be taken as a result. Publicise this alongside the University's new wellbeing policy.</p> <p>Monitor uptake of anonymous channels for reporting concerns.</p> <p>Ensure that all cases are handled sympathetically in line with the guidance.</p>	By December 2016, then monitor annually	Secretary for Admin & HR HoD	<p>2018 staff survey to find that:</p> <ul style="list-style-type: none"> • >80% all staff groups know how to report bullying and harassment; • >75% all staff groups are not concerned about the consequences of reporting bullying and harassment; • <5% staff in all groups report that they have experienced bullying and harassment in last 12 months.

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
3.6	Aim for all staff to complete the E&D online training Encourage all PhD students to complete the training	It is important that there is a shared understanding of the principles of E&D legislation and how E&D impacts on members of the Department.	Continue to circulate regular reports to the Academic Committee and Divisional Champions so that they can follow-up with staff who have yet to complete the training. Continue to require all new staff to complete the online training on their day of appointment.	Termly report	DivCh & DivAd SAT Secretary	100% completion rate by academic staff maintained. Increase in percentage of all staff and PhD students who have completed the training (from November 2016 benchmark of 77%).
3.7	Avoid scheduling labs, lectures and exams on Bank Holidays	Staff report that it can be difficult to manage work around family commitments on Bank Holidays.	Pilot is in progress during 2016/17. Review via consultation with Subject Groups and, if successful, continue.	Review July 2017	Teaching Office	No scheduled teaching, administrative or examining duties on Bank Holidays.
4. Promote an inclusive and supportive culture for all members of the Department						
4.1	Capture data from the new employee induction events	In 2016 the Department revised the format of its induction events. Before then it did not routinely collect feedback or data about these events. Take-up since 2015 has been <60%.	Record event data (event outline, feedback, breakdown of attendees by gender and occupation). Review feedback/data and take action as appropriate. Encourage greater take-up.	Annual event survey in July 2018 staff survey	Secretary for Admin & HR	2018 staff survey to show >75% positive feedback from induction event attendees. Take-up to be >75% by 2018.

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
4.2	Capture data from the annual get-together and other major departmental events	The Department holds various social events but has not routinely collected feedback or data about the events. We need this data to gauge satisfaction and establish a benchmark for further enhancement.	Record event data (event outline, feedback, breakdown of attendees by gender and occupation). Review feedback/data and take action as appropriate.	Annual event survey in July 2018 staff survey	HoD's Office	>75% positive feedback in post-event surveys. Feedback used to inform future events. >80% respondents to 2018 staff survey recommend the Department as a great place to work (compared to 70% in 2015).
4.3	Hold more retirement events and capture data	The Department occasionally holds retirement events, which are well received, but does not do so consistently. Staff have commented that these events enhance the sense of community.	Consider holding more retirement events and record event data (event outline, feedback, breakdown of attendees by gender and occupation).	Annual event survey in July 2018 staff survey	HoD's Office	>75% positive feedback from event attendees. Feedback used to inform future events. >80% respondents to 2018 staff survey recommend the Department as a great place to work (compared to 70% in 2015).
4.4	Capture and share good practice in relation to Divisional events	The SAT introduced an event survey to capture data about the events held within the Department. This showed that some groups have very active event programmes and staff report that this enhances their sense of community.	Ensure that data is recorded in the event survey and compile annual report for SAT. SAT to triangulate data with other sources (e.g. staff survey and feedback from the working environment meetings) to see what is most effective in promoting a healthy working environment.	Annual event survey in July 2018 staff survey	DivAds DivChs SAT Secretary	Annual event survey to show wider adoption of practices that have been identified as particularly beneficial to women. >80% respondents to 2018 staff survey recommend the Department as a great place to work (compared to 70% in 2015).

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
4.5	Trial regular coffee mornings	<p>Division Champions have reported that regular get-togethers over coffee have had a very positive impact on the sense of community in Division E and the Whittle Lab.</p> <p>Academic women were 18% less likely than men to recommend their Division as a great place to work in the 2015 survey.</p>	<p>Divisional Administrators and Champions to consider introducing regular Division or Group coffee times to boost morale and improve networking and community spirit.</p> <p>Review 2018 staff survey results by Division to see if these events have improved satisfaction with the Divisional culture.</p>	Trial in 2017 2018 staff survey	DivAds DivChs	<p>All Divisions to consider trial.</p> <p>>75% academic women recommend their Division as a great place to work in 2018 staff survey (compared to 60% in 2015).</p> <p>All other groups also report >75% satisfaction with their Division.</p>
4.6	Yoga classes	<p>WiE forum members have said that yoga classes would benefit staff and students' wellbeing as they are often too busy to leave the site for exercise classes and there are few opportunities for them to de-stress onsite.</p>	<p>Establish weekly classes to create better sense of community and wellbeing.</p>	Classes established by December 2016 2018 staff survey	Teaching/ Exam Coordinator	<p>>80% respondents to 2018 staff survey recommend the Department as a great place to work (compared to 70% in 2015).</p>
4.7	Promote inclusivity in design of new buildings	<p>The move to a new, custom-built site in West Cambridge (phased over next 10-15 years) is an exciting opportunity to unite the Department.</p>	<p>Ensure that the architects create a design that promotes collegiality and inclusivity, drawing on best practice and engaging Department members at every stage.</p>	Ongoing throughout submission period 2018 staff survey	HoD	<p>>75% respondents to 2018 staff survey report that they feel able to speak up and give their views on how things are done (compared to 67% women and 64% men in 2015).</p>

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
5. Use outreach to engage with under-represented groups and challenge outdated perceptions of engineering						
5.1	Review outreach activities undertaken by Department members	An annual outreach survey has been introduced to produce a comprehensive picture of the outreach work undertaken by Department members. This will enable the Department to see where further support may be beneficial and identify potential synergies.	SAT and Outreach Officer to review results of the annual survey and produce a plan for further development. Number of events and Department members involved tracked. Liaise with Directors of Studies to capture College-based activities. Review feedback to see which events are most successful and have greatest impact.	Report reviewed annually from October 2017	Outreach Officer SAT Secretary	Comprehensive list of outreach activities produced each year. Plan for further development of the Department's outreach programme which is informed by the list.
5.2	Increase number of Department members involved in outreach	Although many Department members are already involved in outreach there is scope for more to participate.	From 2015/16 outreach activities will be factored into the workload allocation and will be considered in the appraisal, probation and promotion exercises. This should provide a further incentive for staff to get involved.	Report reviewed annually from October 2017	Outreach Officer SAT Secretary	Results of annual outreach survey show increase in the number of volunteers (from 86 unique volunteers in 2016). >80% positive feedback from attendees of outreach events.

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
5.3	Launch and embed student ambassador scheme	Student focus groups recommended that school visits from women students would demonstrate to potential applicants and their teachers that engineering is a fascinating and diverse career for women as well as men.	<p>Introduce online resource pack and support for student ambassadors.</p> <p>Seek feedback from participants and adapt pack and support as necessary.</p> <p>Department to pay student ambassadors' expenses.</p> <p>Monitor data to see there if there is an impact on applications (this will take a couple of years if the visits target year 9 students).</p>	Launch by April 2017: review annually	<p>Outreach Officer</p> <p>Tim Minshall, Div E</p> <p>Champion</p> <p>CUES</p> <p>Diversity Officer</p>	<p>>80% positive feedback from school students and teachers that the visits have improved their perception of WiE.</p> <p>Proportion of applications from women students continues to increase (from 21% in 2015/16).</p>
5.4	Delegate some outreach/student conferences and talks to young female and/or BME staff	Hitherto the Director of Admissions has given most of these talks. Students have suggested that younger female or BME speakers could do more to counter outdated perceptions of engineering.	<p>Identify potential speakers.</p> <p>Briefing and support to be provided by the Director of Undergraduate Admissions.</p> <p>Department to pay expenses.</p>	By April 2017	<p>Admissions Team</p> <p>DHoD</p>	<p>>80% positive feedback from event attendees that the talks have improved their perception of engineering as a diverse and inclusive discipline.</p> <p>Proportion of applications from women students continues to increase (from 21% in 2015/16).</p>

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5.5	Hold events for Physics teachers in the Department	Student focus groups found that Physics teachers often do not promote engineering as a career path to their female students.	Invite the Physics Teacher Network's East of England branch to the Department so they can meet some of our women students and see our new facilities.	By September 2017	Outreach Officer	>80% attendees report improved perceptions of engineering as a career for women and intention to actively promote engineering to female students.
5.6	Target mature students via outreach	Mature students are an under-represented group.	Liaise with Colleges for mature students so that the Department can engage with their recruitment initiatives.	By 2017 admissions round	SAT College rep	Increase proportion of mature students (from 4% in 2015/16).
6. Keep applications and admissions from women students consistently above the national average, improve the experience of women students in the Department and continue to reduce the gender attainment gap						
6.1	Continue to monitor and analyse applications and admissions data	It is important that we maintain (and ideally increase) the proportion of women students and understand any trends evident in the data.	SAT, Teaching Committee and Directors of Studies Committee to consider annual report and identify trends and/or actions which could further increase the proportion of successful women applicants.	Annually	SAT Secretary	Proportion of applications and admissions from women students continues to exceed national average (and continues to grow from 2015/16 benchmark of 21% women applicants).
6.2	Keep applications and admissions from women students consistently above national average	Virtuous cycle: student focus groups suggested that increasing the proportion of women students would encourage more to apply.	Ensure that our publicity and website highlights our higher than average proportion of women students.	By April 2017	Admissions Team SAT Secretary	Proportion of applications and admissions from women students continues to exceed national average (and continues to grow from 2015/16 benchmark of 21% women applicants).

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6.3	Ensure that there is a strong WiE presence at the Department's Open Days	Student focus groups reported that meeting women engineers at the Open Days would help inspire potential women applicants (and reassure their parents).	SAT members to staff WiE stall (ideally both staff and students).	Annually from July 2017	SAT College rep	>80% positive feedback from female attendees that the Open Days have improved their perception of engineering as an attractive career for women and made it more likely that they will apply to study engineering at Cambridge.
6.4	Target women applicants via admissions material	Focus groups with current women undergraduates suggested measures that they thought would appeal to potential women applicants.	Review admissions material to ensure that women feature prominently in images and case studies. Include more video clips featuring women to demystify the applications process and course. Assess impact of these measures via the A-level student and teacher focus groups, as mentioned in A.1.3.	Review material by 2017 admissions round Hold focus groups in 2018	Admissions Team DHoD	>80% positive feedback from female attendees that the new material has improved their perception of WiE and made it more likely that they will apply to study engineering at Cambridge. Increase in applications from women (from 2015/16 benchmark of 21%).
6.5	Department to be represented on Admissions Forum	Incentivise staff to act as Admissions Tutors so that we are represented on the Admissions Forum, which defines University admissions policy.	Ensure that all staff are aware of the importance of this role and that it will be recognised in the workload allocation.	By 2017 admissions round	HoD	At least one Department member sits on the Admissions Forum.

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6.6	Increase contact between female lecturers and undergraduates	There are still relatively few women lecturers: maximising contact with undergraduates (without overloading female lecturers) will inspire female students to aim high.	Review teaching allocation before the next round to see if more first and second year undergraduate lectures could be given by women. Assess impact via student focus groups.	Introduce changes for 2017/18 Hold focus group in 2018/19	DHoD	Proportion of Part I lectures given by women to exceed the proportion of women staff. >80% focus group members indicate that contact with female staff has raised their aspirations.
6.7	Improve supervision experience for women students	There have been occasional reports of some supervisors making sexist comments or favouring male students.	Include unconscious bias training and highlight inclusive teaching practices and gender awareness in supervisor training sessions.	By January 2017	DUE	Fewer reports of women students feeling side-lined or uncomfortable in supervisions.
6.8	Encourage students to take up PPD opportunities	Participating in PPD activities can improve confidence and attractiveness to employers.	Promote relevant opportunities to students and support them in taking up such opportunities. Liaise with SSJC to establish benchmarking data and then review participation annually.	Benchmarked established by July 2017: review annually	Researcher Development Coordinator	Increase in the number of students participating in PPD activities each year, once benchmark is established. >85% positive feedback on personal development in NSS (from 83% in 2016).

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6.9	Continue to monitor and analyse student attainment	Male undergraduates have historically achieved a higher proportion of firsts but the proportion of women awarded firsts at BA level and distinctions in the MEng has improved yearly since the Bronze Award (and exceeded the proportion of men in the MEng in 2015/16).	Monitor and analyse data annually. Continue working with SSJC to improve the courses for all students.	Ongoing development: annual review	DHoD	Disparity between proportion of men and women awarded firsts at BA level continues to narrow (from 8% in 2015/16). Proportion of women awarded distinctions in the MEng remains comparable to proportion for men.
7. Improve the experience of researchers and strengthen their sense of community						
7.1	Continue efforts to strengthen the researcher community	Researchers are projected to be the biggest growth area and it can be an isolating role so it is important to encourage a good sense of community. The 2015 staff survey indicated that a significant proportion of researchers did not feel valued.	Postdoc Committee to continue facilitate communication, collaboration and sharing of ideas within the researcher community.	Ongoing development: review after 2018 survey	Postdoc Committee rep	2018 staff survey to show that >75% researchers feel valued by the Department (compared to 56% of researchers in 2015).

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
7.2	Conduct survey of the Department's researchers	The Department's research community is very diverse and little Department-wide data exists about their experience.	Survey researchers about College affiliation, PPD, teaching opportunities and mentoring.	Initial survey: by January 2017 Re-run survey 2018/19	Postdoc Committee rep	Baseline data established for use as a benchmark for measuring progress. Priorities determined by findings and progress evaluated when survey is re-run.
7.3	Improve Divisional support and integration	The staff survey revealed that a significant proportion of women researchers did not feel well consulted about changes that would affect them or informed about what was happening, particularly within their Division.	Encourage Divisions to follow successful Division C model whereby the Head of Division organises regular gatherings at which researchers can network, receive updates on divisional developments and express their concerns/ideas. Divisional working environment consultation and resulting action plans (ref A.3.2) to particularly explore concerns of female researchers and put actions in place to address these.	Introduce changes by July 2017 Assess impact in 2018 staff survey	DivChs	All Divisions to follow Division C model or develop suitable alternative. 2018 staff survey to show >75% researchers feel well supported, consulted and informed (from 2015 benchmark of 49% female researchers reporting that they felt informed about what was happening in their Division and 39% who felt consulted and able to contribute their views about changes to their job).

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
7.4	Encourage researchers to participate in departmental management activities	Academic women staff are often heavily loaded with committee work and other management activities but these may offer valuable PPD opportunities for researchers and make them feel more integrated into the Department.	Publicise opportunities (and the benefits of getting involved) to researchers. Ask researchers (especially SRAs) to let DivChs know if they are interested in getting involved. Capture data about level and nature of involvement.	Ongoing development: annual review	Postdoc Committee rep DivChs Research Office	Improved gender balance on the Department's committees. Increased proportion of researchers involved in departmental management activities. 2018 staff survey to show >70% female researchers feel well supported, consulted and informed (from 2015 benchmark of 55% reporting that they felt able to speak up and give their views on the way things are done).
7.5	Encourage more researchers to be affiliated to Colleges	We do not have data on the proportion of researchers who are affiliated to Colleges but anecdotal evidence suggests it is low.	Publicise which Colleges have schemes for researchers. Gather data on numbers as a benchmark for measuring progress (ref A.7.2). Liaise with Colleges to address any barriers that prevent researchers from taking up College affiliations. Review feedback to ensure that affiliation benefits researchers.	Establish benchmark by January 2017 Review 2019	Postdoc Committee rep	10% increase in proportion of researchers affiliated to Colleges (once baseline established for comparison purposes).

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7.6	Continue to promote one-to-one PPD opportunities	The sessions offered by the Researcher Development Coordinator are very well received but are not taken up by all researchers. Various other university bodies offer PPD opportunities but the SAT does not have comprehensive data about participation.	Promote benefits of sessions to researchers. Liaise with PPD and other providers to gather data on numbers as a benchmark for measuring progress.	Establish baseline data by September 2017 Annual review	Researcher Development Coordinator	Increase in proportion of researchers taking up these sessions (from c.60 in 2015/16). >80% participants positive about impact of these PPD opportunities on their career development.
7.7	Embed peer-to-peer mentoring scheme for researchers	A successful pilot was rolled out in 2015/16. Feedback from mentors and mentees about the impact on their sense of community and the effectiveness of the scheme has been extremely positive.	Encourage uptake of the peer-to-peer mentoring scheme (by academics as well as researchers) and monitor feedback. Ensure that quantitative feedback is gathered from mentors and mentees to assess impact.	Assess impact in 2018 staff survey	Postdoc Committee rep	High proportion of researchers to be trained as mentors (target: 60% by 2018 up from 20% in May 2016). >80% researchers to be allocated a mentor by 2018. >80% participants positive about impact of the scheme on their career development and sense of community. >75% female researchers report in 2018 staff survey that they have regular opportunities to discuss their development needs (up from 53% in 2015).

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
7.8	Promote benefits of staff review to researchers	Uptake of staff review opportunities is variable as many researchers do not see them as relevant within their short-term contracts. The 2015 staff survey showed that a significant proportion of researchers felt that they did not receive regular and constructive feedback.	DivChs to promote the benefits of staff reviews for career and personal development.	Ongoing development Assess impact in 2018 staff survey	DivChs	>75% researchers report in 2018 staff survey that they receive regular and constructive feedback on their performance (up from 59% for women and 63% for men in 2015).
7.9	Gather and review exit questionnaire data for researchers	A webform was launched in 2015/16 to capture feedback and destination information for researcher leavers so that the SAT could determine whether more could be done to retain researchers, particularly women.	Annual report to SAT summarising issues. Feedback passed to Divisions and/or central bodies (provision is made for leavers to give open and confidential feedback).	Annual report in July	Research Office	>70% completion rate by leavers. Establish destinations and reasons for women research leavers: SAT to consider whether more could be done to retain them and actions introduced as appropriate.

Ref	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
8. Eliminate any potential gender bias in recruitment practices and procedures, increase applications for academic positions from strong women applicants and the proportion of women appointed to these positions						
8.1	Continue to monitor data about women applicants and Search Committee compliance with good recruitment practices	The proportion of women appointed to academic positions is still low; we cannot positively discriminate but we should do all we can to attract the best women applicants.	Continue to collect and analyse data including: subject area of post, gender of selection panel members, gender balance of applicants, shortlist and appointments, anonymised Equal Opportunities information. Think creatively about how to attract suitably qualified women in particularly male-dominated fields.	Ongoing development: annual review in July	Secretary for Admin & HR	Increase in the proportion of applications for academic positions from women and in the proportion of women appointed to these positions (from averages of 12% and 18% respectively between 2013 and 2016).
8.2	Explore ways of appealing to strong women applicants	Some cognate departments have achieved higher proportions of applications from women after reviewing their recruitment material and introducing more family-friendly support.	Explore successful initiatives in other engineering departments. Academic Committee to consider whether any of these initiatives could inform the development of the Department's recruitment practices	Research during 2017 Implement 2018 Review impact 2019	Secretary for Admin & HR HoD	Increase in proportion of applications for academic positions from women and in the proportion of women appointed to these positions (from averages of 12% and 18% respectively between 2013 & 2016).

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
8.3	Nurture researchers with a view to them taking up academic positions	The transition from researcher to lecturer is one of the key areas of attrition for female staff. Losing them to industry shrinks the pool of women from which we can appoint new academic staff so the Department needs to retain them if possible.	Encourage qualified and interested female researchers to apply for vacancies. Appraisals to discuss development opportunities and encourage researchers to think strategically about their career. Collect data on the proportion of applications for academic positions from the Department's researchers.	Assess impact in 2018 staff survey	Researcher mentors/PIs Research Office	Increase in proportion of applications for academic positions from the Department's researchers, once benchmark is established.
8.4	Introduce unconscious bias training for selection panels	Other universities and companies are increasingly making such training compulsory for those involved in recruitment to reduce the risk of interviewers appointing candidates in their own image.	Run a further training session on unconscious bias. Investigate feasibility of providing unconscious bias training online (if University does not make online lecture or training available soon).	By July 2017	DHoD	Hold a pilot session for selection panels and review feedback to assess whether the trial should be extended.

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
9. Promote career progression and ensure that staff are supported throughout their career						
9.1	Review probation process	The 2015 staff survey revealed that the probation process was not always viewed as being well managed, although the responses may refer to previous versions of the process.	Survey recent probationers and run training session on probation that takes account of this feedback. Ensure that probationers always receive constructive feedback at the end of the process that is linked explicitly to their teaching capabilities.	Ongoing development: review in 2018	Secretary for Admin & HR plus DUE with input from Heads of Division	>75% probationers positive about current scheme and how it nurtures good academic practice.
9.2	Support mid-career staff in improving their interpersonal and management skills	Training is available for senior and early career staff but there is less for mid-career staff. In the 2015 survey 70% of academic women said that they would take advantage of leadership training if it were available locally (compared to 46% academic men). Improving managers' interpersonal skills could improve the working environment and increase the proportion of staff who feel respected, supported and listened to by their managers.	Trial half-day or bite-sized sessions on management and leadership for academic staff and researchers (note participation in the staff review form). Promote the Postdoc Committee's sessions on leadership and self-leadership to academic staff as well as researchers.	Trial in 2017: review impact after 2018 survey	HR Advisor	>75% academic staff in 2018 survey satisfied with training and personal development opportunities (compared to 65% female and 60% male in 2015).

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9.3	Review the mentoring scheme for academic staff	<p>A recent WiE Forum event on mentoring found that there is confusion between buddy and mentor schemes and that the effectiveness of mentoring arrangements is variable.</p> <p>There is no departmental guidance on the roles of mentors and mentees and it has not always been possible to offer an annual training session.</p>	<p>Provide training for mentors and mentees on an annual basis which clarifies expectations of mentors and mentees. Ensure that participants' feedback is collected and used to inform future training.</p> <p>Consider introducing external mentors to increase the proportion of women mentors.</p>	Ongoing development: review in 2018	HR Advisor	>80% participants report greater clarity about the roles of mentors and mentees and greater satisfaction with their mentoring arrangements.
9.4	Monitor staff review rates	The last staff survey revealed that some staff had not received appraisals according to the Department's schedule.	<p>Monitor staff review rates to ensure that all staff are reviewed according to the schedule.</p> <p>Investigate scope for greater follow-up of gender-related issues raised at staff reviews.</p>	Ongoing development: review in 2018	HR Advisor	<p>100% of academic staff to have been appraised within three years.</p> <p>>75% staff in all groups report finding their last appraisal useful in 2018 survey.</p>
9.5	Encourage female academics to take up promotion opportunities	The proportion of senior female academic staff is still low.	<p>Analyse data annually to identify actions that might lead more women to make successful applications at an early stage.</p> <p>Use appraisals to encourage all candidates to apply for promotion where there is a good case.</p>	Ongoing development: review annually	Heads of Division	<p>Promotion discussed with all eligible candidates during appraisals.</p> <p>Successful promotion rate for academic women remains at least 75%.</p>

Ref	Planned action/objective	Rationale	Key outputs and milestones	Timeframe	Person responsible	Success criteria and outcome
9.6	Continue to promote and monitor uptake of SAP CV scheme	The scheme is designed to benefit all staff and may be particularly useful in helping women to convey their achievements effectively.	Continue to promote the scheme to all eligible women. Monitor uptake of scheme and promotion success rates. Seek feedback from participants.	Ongoing development: review in 2018	Central HR	2018 staff survey to show that >85% of academic staff aware of the SAP process (from 74% women and 78% men in 2015). >80% SAP participants positive about the scheme.
9.7	Increase number of women on the Emerging Leaders Programme	The Department piloted the scheme in 2012/13 and it is now a University-wide scheme. Places are limited.	Gather data on uptake and feedback from participants. Prioritise women applicants.	Ongoing development: review annually	HoD	Increase in proportion of women who have participated in the programme, once benchmark is established. >80% participants positive about the scheme and how it has benefited them.
9.8	Monitor data for maternity, paternity and family leave; explore reasons if any staff do not return.	The Department aims to retain all staff after maternity leave and to put additional support in place to enable them to return to work if necessary. Eligible candidates are encouraged to take paternity or parental leave to help them maintain a good work-life balance.	Follow-up with any staff who choose not to return after maternity leave; would more support or flexibility have persuaded them to return? Continue to promote paternity and parental leave plus other family-friendly policies.	Ongoing development: review annually	Secretary for Admin & HR Research Office	Better understanding of why some women researchers do not return after maternity leave. Aim for 100% return rate for academic and academic-related women; increase proportion of researcher returners (from 50% between 2010-16).

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9.9	Continue to promote and monitor uptake of the Returning Carers Scheme	Participants have reported that the scheme has been beneficial to their career development and work-life balance.	Gather data on uptake and feedback from participants.	Ongoing development: review annually	Central HR	<p>>80% participants positive about the scheme and how it has benefited them.</p> <p>Positive feedback used to help promote the scheme to others.</p> <p>Increase in proportion of take-up from eligible candidates, once benchmark is established.</p>