



## **Athena SWAN Bronze department award application**

Name of university: **University of Cambridge**

Department: **Department of Engineering**

Date of application: **30 April 2013**

Date of university Bronze and/or Silver SWAN award:

**2009 and renewal in 2012**

Contact for application: **Mrs Sally Collins-Taylor**

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

Athena SWAN **Bronze 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.

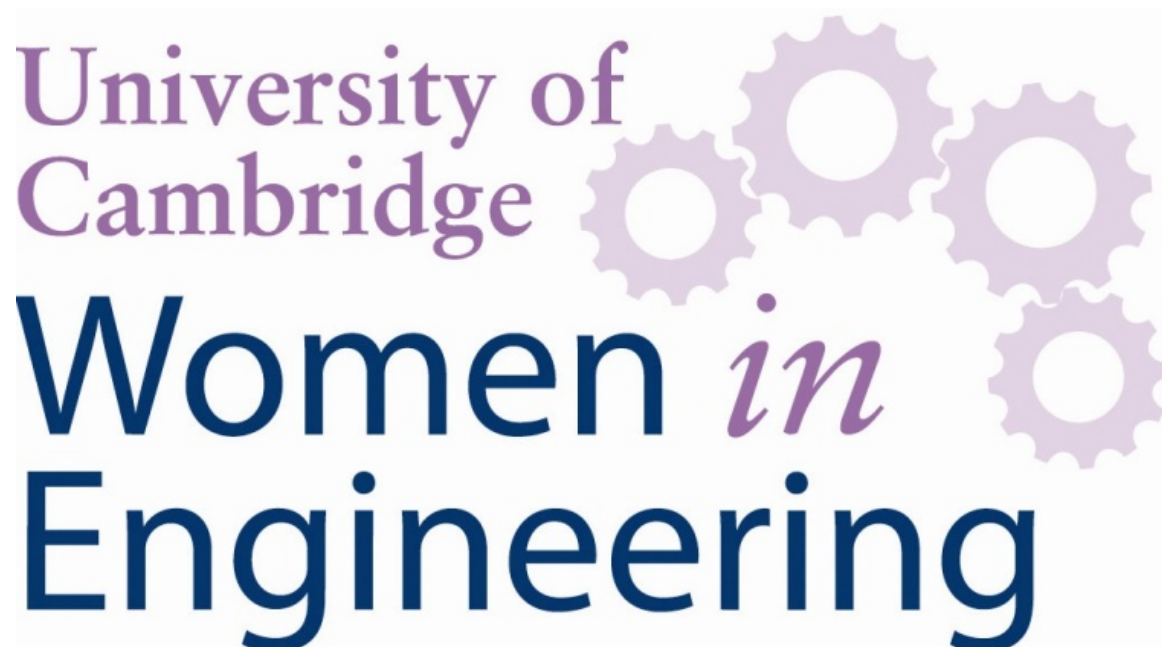
### **Sections to be included**

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

**1. Letter of endorsement from the head of department: maximum 500 words  
(646/500 words)**

*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.*



*The Women in Engineering Logo.*



## STATEMENT OF SUPPORT

As a woman engineer, I have for a long time been aware and concerned about the gender imbalance in Engineering. I have, consequently, undertaken many activities that aim to enthuse and inspire women, both locally and nationally, about engineering. I have been a patron of WES, the Women's Engineering Society, since 2006 and more recently I was a member of the CIHE taskforce that produced the report Talent 2030 and I am one of the 'STARS' in the Talent 2030 campaign. I am especially pleased to be able to encourage Department-wide initiatives to advance women's careers in Engineering.

This Department aims to address the world's most pressing challenges through our teaching and research, benefiting society by creating world-leading engineering knowledge that fosters sustainability, prosperity and resilience. To meet our aspirations, it is essential that we are able to recruit the best students and staff internationally. We need to be able to offer attractive opportunities for work and study irrespective of gender and to demonstrate our commitment to equality.

The shortage of graduate engineers is extreme and increasing recruitment into engineering at undergraduate level is particularly important. The EngineeringUK estimates that over the next ten year period UK industry will need to recruit some 87,000 graduate engineers per annum which is nearly twice the current numbers graduating from engineering courses.

My Department aims to increase our undergraduate numbers by 40 over the next four years. We undertake a range of outreach activities, starting with children aged 6 and 7 through to sixth-formers, undergraduates and professional groups. Through these our staff and students aim to increase awareness of and excitement for engineering and, in particular, the number of girls considering engineering as a career option.

Each year we recruit approximately 134 women into the Department to study engineering. 25-26 % of our undergraduates are women and we are ahead of the national average (17 %). However, there is no cause for complacency. The analysis undertaken as the part of the Athena SWAN preparation has shown that when the numbers are broken down by country as well as gender, our higher recruitment of women is due primarily to international women. As far as UK nationals are concerned our percentage of women is merely average. This has encouraged us to increase our efforts. The Athena SWAN action plan identifies ways of doing this and I strongly support these.

The Department faces a real challenge in increasing the relatively small number of female academic staff members. Already the preparation for the Athena SWAN submission has raised awareness and identified new initiatives for search and short-listing committees. I am very pleased that already this year we have had two women be successful in lectureship competitions. There is much more to do and the Athena SWAN Self-Assessment Team has identified ways in which we can move forward. The Women in Engineering Forum and website are proving to be one of the key sources of information and inspiration. I attended the inaugural Forum event and was struck by the enthusiasm with which our women staff and students participated in and benefitted from this event. It is important that the series continues.

The first steps of our Athena SWAN Self-Assessment Team led to an Action Plan. As we move into the implementation stage, I believe progress can best be made if the Athena SWAN activities are fully integrated with the leadership of the Department. I therefore agreed to be the Department's Athena SWAN champion for the coming year. In that position I will be best able to drive forward change. I am convinced that the Athena SWAN process is an integral part of the work to identify a clear path towards creating a more supportive, congenial and, in all respects, a more successful department.

This application and the growing emphasis on Athena SWAN objectives and 'Women in Engineering' activities throughout the Department have my full and strongest support.

A handwritten signature in black ink that reads "Ann Dowling". The signature is written in a cursive style and is enclosed within a thin black rectangular border.

Professor Dame Ann Dowling

**2. The self-assessment process: maximum 1000 words (1113/1000 words)**

*Describe the self-assessment process. This should include:*

**2. 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 Department of Engineering is committed to the Athena SWAN principles and is actively progressing their adoption across the Department. The decision to make an application under the Athena SWAN Award Scheme was made in September 2011 by the Department's Senior Management Committee (Academic Committee). A cross-divisional Self-Assessment Team (SAT) was appointed by the Head of Department (in consultation with the Academic Committee) to lead the preparation of the application and also to take forward on-going initiatives.

The membership of the SAT is drawn from across the Department and includes male and female academic staff, research staff and students. Additional input was sought from other members of the Department as the principles of Athena SWAN were communicated throughout the Department and the Action Plan was developed and implemented.

SAT Member	Role	Relevant Experience
Professor Keith Glover FREng, FRS	Professor of Engineering. Former Head of Department (2002-09).	<ul style="list-style-type: none"> <li>Chair of the Athena SWAN SAT.</li> <li>Departmental Athena SWAN Champion.</li> <li>Extensive experience in the recruitment, development and promotion of a large number of academic staff.</li> </ul>
Dr Abir Al-Tabbaa	Reader in Geotechnical Engineering.	<ul style="list-style-type: none"> <li>Member of the University Senior Gender Equality Network, the WiSETI Steering Committee and the University Athena SWAN Governance Panel.</li> <li>First-time mother in her forties (6 years ago) taking 4 months maternity leave, followed by 2 terms of sabbatical leave through Departmental support.</li> <li>Member of the Faculty Appointments Committee.</li> </ul>
Ms Mary Lou Masko	Laing O' Rourke M.Phil. Course Director, Masters in Construction Engineering.	<ul style="list-style-type: none"> <li>Helped initiate and Chair the new Women in Engineering Forum.</li> <li>20 plus years' experience in industry as a construction project manager.</li> </ul>
Dr Athina Markaki	University Lecturer in Engineering Materials. Heads the "Materials Engineering and Material-Tissue Interactions" group.	<ul style="list-style-type: none"> <li>Co-Chair of the Athena SWAN SAT.</li> <li>First time mother in 2011. After her maternity leave, she worked part-time during a period of graduated return.</li> <li>Runs a group of 4 Ph.D. students (2 of them are females) and 3 post-docs (2 of them are females).</li> </ul>
Dr Alice Moncaster	Senior Research Associate and Deputy Director of Interdisciplinary Design for the Built Environment Masters course (run jointly between the Departments of Engineering and Architecture).	<ul style="list-style-type: none"> <li>Worked as a structural engineer in consultancy for many years, some part-time. Started academic career late, after having two children, now 10 and 14.</li> <li>Researches into the careers of women engineers with the Institution of Civil Engineers (ICE).</li> <li>Personally aware of some of the difficult issues that may be faced at each stage of life for women in academia.</li> </ul>
Dr Rob Miller	Reader in Energy Technology, Director of the Rolls Royce Whittle Laboratory University Technical Centre.	<ul style="list-style-type: none"> <li>Academic role is focused on research and industrial collaboration.</li> <li>First child born in January 2013 and now balancing work/family life.</li> </ul>
Mr Aidan Reilly	Ph.D. Student.	<ul style="list-style-type: none"> <li>Experience of juggling research and teaching commitments.</li> </ul>

SAT Member	Role	Relevant Experience
Dr Tim Minshall	University Senior Lecturer in Technology Management. Head of the Technology Enterprise Group in the Institute for Manufacturing. Co-lead of strategic theme on "Inspiring Research through Industrial Collaboration". Chair of the Manufacturing Subject Group.	<ul style="list-style-type: none"> <li>• Extensive experience of balancing an academic career and a family. His wife spent 16 years as a Research Associate (RA) in the Department of Biochemistry, the last 10 of which were on a part-time basis to allow time for childcare.</li> <li>• Experience of employing new staff.</li> <li>• Participates in many outreach activities.</li> </ul>
Mr Patrick Wollner	Ph.D. Student.	<ul style="list-style-type: none"> <li>• Experience of being an undergraduate and graduate student in the Department.</li> <li>• President of a society that coordinates a University-wide effort to promote evidence-based policy-making.</li> </ul>
Dr Vivien Hodges	University Women in Science, Engineering and Technology Initiative (WiSETI) Project Officer.	<ul style="list-style-type: none"> <li>• Member of the University's Equality and Diversity team.</li> <li>• Advises on the process of application and input into the management and presentation of the data.</li> <li>• Secretary of the Athena SWAN Governance Panel.</li> </ul>
Mrs Sally Collins-Taylor	Secretary to the Department (HR & Admin).	<ul style="list-style-type: none"> <li>• HR responsibility for Academic, Academic related and Assistant staff.</li> <li>• Member of many departmental committees including the Academic Committee.</li> </ul>
Miss Gemma Wilkins	Administrative Assistant to the Athena SWAN SAT and Conference Organiser for the Centre for Sustainable Development.	<ul style="list-style-type: none"> <li>• Provides administrative support to the SAT and all Women in Engineering related activities.</li> <li>• Works part of the week as a Conference Organiser and so is used to juggling a heavy workload and multiple jobs.</li> </ul>

*Table 1. University of Cambridge Department of Engineering Athena SWAN Self-Assessment Team*

**2. 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.*

The Head of Department has indicated her commitment to the Athena SWAN principles and has facilitated the preparation of the Department's application as well as supporting the implementation of the Action Plan. She appointed Professor Glover as the Department's Athena SWAN Champion and Chair of the SAT with responsibility for monitoring data on the Department's current performance in respect of Equality and Diversity, reviewing the Department's procedures for the recruitment and career progression of students and staff and proposing and taking forward an appropriate Action Plan. The Chair also has a responsibility to update the Department's management committees on the progress and initiatives proposed by the SAT and set out in its Action Plan. As a member of the University's Bronze Renewal Self-Assessment Team, Professor Glover has been able to update the SAT on University-wide progress. Professor Glover will retire in December 2013 at which time Professor Dame Ann Dowling will become the Department's Athena SWAN Champion.

The SAT, initially, focussed attention on analysing relevant data to establish trends and identify possible areas for future action and also on how to facilitate full engagement in the 'Women in Engineering' initiative. This first stage led to a report to the Head of Department and the Academic Committee who confirmed commitment to the Athena SWAN principles and approved the proposed actions. The Academic Committee has asked for annual updates of activity and relevant staff and student data. **[ACTION 1: AWARENESS]**

The next stage was to widen the understanding of the Athena SWAN initiative across the Department and presentations were made to the Department's main committees (Faculty Board and the Teaching Committee). The members of these committees were encouraged to inform staff in their divisions, subject and research groups etc., of the Department's commitment to the Athena Swan initiative. Establishing a 'Women in Engineering' network across the Department was the next stage. The Women in Engineering Forum was created to provide this platform for direct consultation on issues affecting women. The aim of the Forum is to facilitate networking of women across the Department and outside their normal engineering discipline focus. This also will help identify possible areas in which to provide support for women in developing and progressing their careers. At the inaugural meeting of the Forum (attended by postgraduate students, research and academic staff), feedback was sought around three key themes: Culture, Career development and Work-life balance. This feedback was reviewed by the SAT and used to develop the Action Plan and future format of Forum meetings. It is worth noting that a similar Forum for Administrators already exists in the Department. **[ACTION 2: CULTURE]**.

The SAT has attached a high priority to providing an identity for 'Women in Engineering'. The logo is being used extensively and the Women in Engineering webpage and Twitter account provide a focus for the SAT's activities so that members of the Department can easily be informed of upcoming events and initiatives both in the Department, and externally across the University. **[ACTION 1: AWARENESS]**

The University has a significant number of policies and procedures which provide the framework within which the Department operates and many of these are concerned with employment related matters, for example recruitment policy. The SAT, as part of its remit, reviews the data provided by the central University on maternity leave for example. In addition to this, members of the SAT have attended central University workshops to help with the Athena SWAN application process (presentations by Oxford Research and Policy and WiSETI). The University also provides on-line equality and diversity training and the SAT has incorporated this training into its Action Plan as a priority for staff on decision-making and recruitment committees. **[ACTION 1: AWARENESS]**  
**[ACTION 4: RECRUITMENT PRACTICES & PROCEDURES]**

Externally the SAT has undertaken to find out about good practice in other Universities and has also consulted the Royal Academy of Engineering to exchange information and gather data to help the Department benchmark itself against other engineering departments.



**2. 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 number of women in the Department has increased over the last ten years and the Department is committed to increasing the percentage of women at all levels, without any compromise on quality. The Department will progress the actions outlined in this submission to support women staff and students and establish the best possible working environment to facilitate career development and progression. The next steps will include the following:

- The SAT will meet regularly throughout the academic year and will report to the Academic Committee. The Chair will provide an update on the continuing implementation of the Action Plan and provide the opportunity to review staff and student data from the previous year. **[ACTION 1: AWARENESS]**
- The SAT membership will be reviewed every three years with an aim to help facilitate a good level of engagement across the Department.
- The Women in Engineering Forum will meet once a term with a programme of workshops and invited speakers. The SAT has planned that invited speakers will be from the Department, University-wide or external to the University. There has also been discussion of implementing a Distinguished Lecture once a year along the lines of the annual University WiSETI Lecture sponsored by Schlumberger. **[ACTION 2: CULTURE]**
- The Women in Engineering website<sup>1</sup>, as shown in Figure 1. will be a key source of information on Athena SWAN activities and related events and publications within the Department. The initial development work has been undertaken, a Twitter feed has been set up and the basis of the website built. The HR Office will update the website on a regular basis to include information on Department and University-wide targeted and interesting events and relevant news. Extensive use will be made of the 'Women in Engineering' Logo (See Page 2). **[ACTION 1: AWARENESS]**
- The SAT will take the key role in delivering the Action Plan and will update and progress the plan on an on-going basis at its termly meetings.

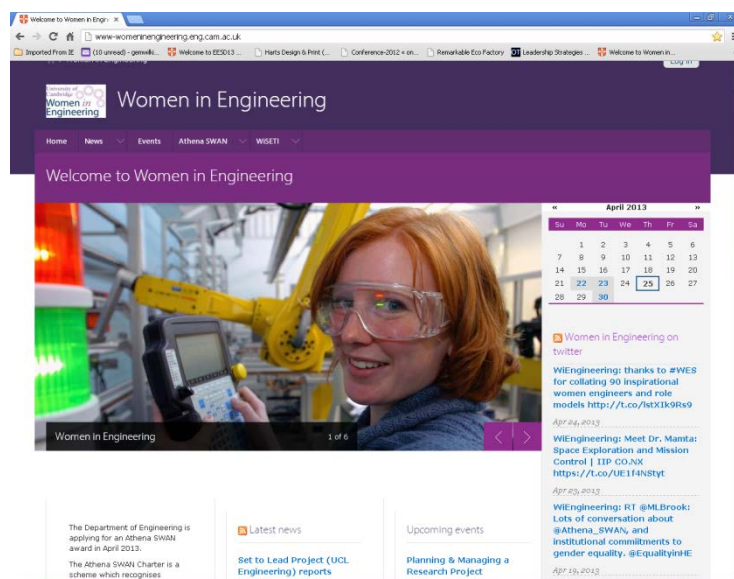


Figure 1. The Women in Engineering website

<sup>1</sup>www-womeninengineering.eng.cam.ac.uk

**3. A picture of the department: maximum 2000 words (2562/2000 words)**

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

The Department is an integrated engineering department representing approximately 10% of the University’s academic activity as measured against most metrics and also one of the constituent departments in the School of Technology. The Department is a vibrant and leading international centre for research due to the excellence of the individual academics and also the power of uniting these academics into a single integrated department spanning a wide range of engineering disciplines. The Department benefits greatly from the Collegiate structure of the University where the 31 Colleges typically provide accommodation, pastoral care and small group teaching for the student body and nearly all of the academic staff in the Department are Fellows of a College.

The Department’s international reputation attracts the best students, academics, sponsors and partners from around the world. The Department has 147 Academic Staff, 263 Research Staff and approximately 200 Support Service Staff. There are some 1,200 undergraduate students and over 800 postgraduate students. It is accommodated on two sites; one in central Cambridge and four satellite buildings in West Cambridge. The size and two site location means that it is especially important to have an effective organisational structure in place and the structure is as follows:

Head of Department			
Council	Academic Divisions	Division A – Acoustics, Energy, Fluid Mechanics and Turbomachinery	Academic Committee
		Division B - Electrical Engineering	
		Division C - Mechanics, Materials and Design	
		Division D - Civil, Structural and Environmental Engineering with Sustainable Development	
		Division E - Manufacturing and Management	
		Division F - Information Engineering	
	Services Divisions	Division V - HR Office, Research Office, Graduate Studies Office, Teaching Office ( including Faculty Board and Exams), Finance Office, Library	
		Division S - IT Services Division	
		Division W - Workshops (and minor works)	

Table 2. University of Cambridge Department of Engineering Organisational Structure

All staff are assigned to the appropriate Academic or Support Service Division on appointment so that the line of management responsibility is clear. The Department also has four strategic research themes to support collaborations across divisions and other disciplines and to allow the Department greater flexibility in responding to new initiatives.

The Department runs two four-year undergraduate courses leading to the degrees Bachelor of Arts (B.A.) and Master of Engineering (M.Eng.) (See Figure 2. below).

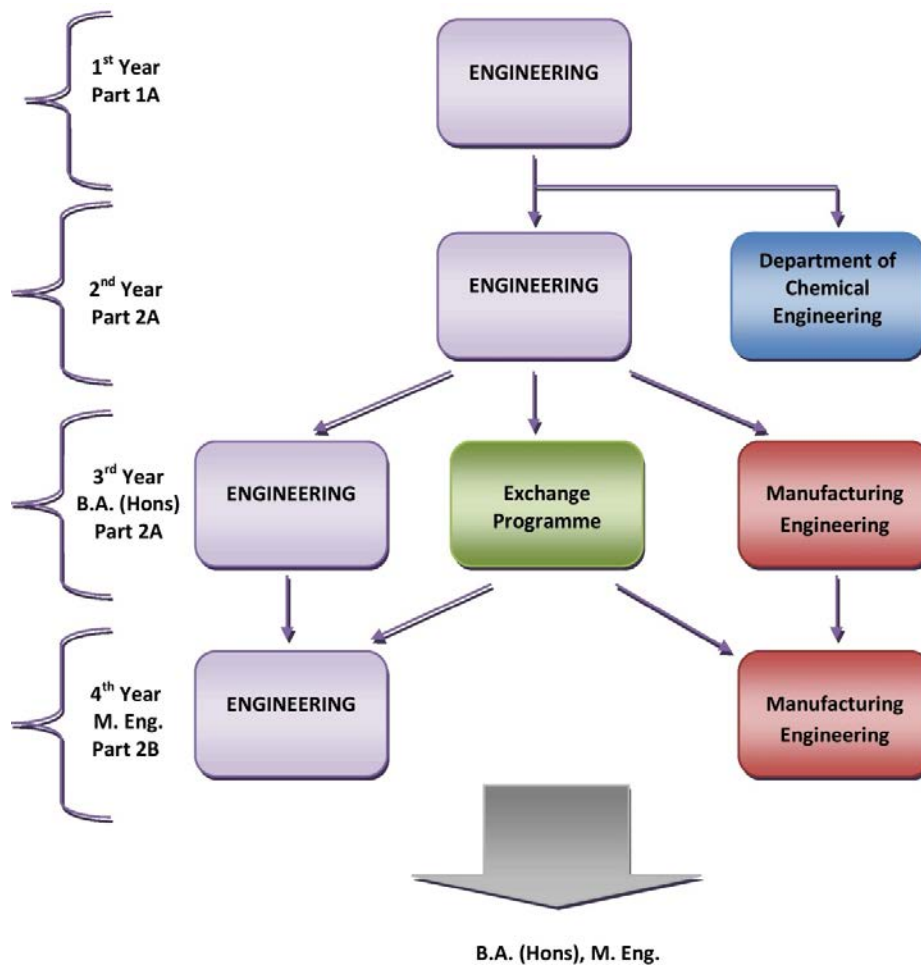


Figure 2. An Overview of the 4 Year Engineering Tripos (Undergraduate degree course)

For the first two years, all students reading Engineering follow the same course covering all the main branches of engineering at a fundamental level with the aim of giving students a wide general knowledge of the field. From the third year, students can concentrate on their chosen branch of engineering within the Engineering Tripos (Undergraduate Degree Course) or take the Manufacturing Engineering Tripos (MET).

The diverse population of postgraduate students either complete a taught Masters degree, research Masters degree (M.Phil.) and/or a Ph.D. All these can be completed on a part-time basis. The Department is committed to support students in attending technical conferences and other organised scientific events. An integrated educational framework, that goes beyond the specific field in which postgraduate students are working, aims to build transferable skills in communications, teamwork and ethics. The research workers are typically post-doctoral staff and a good range of career development courses are available for them run by both the Department and the University, in addition to their involvement in internationally leading research.

The Department, similar to other engineering departments, has not historically had a high proportion of female staff and students and is striving to encourage more female applications at all levels.

**3. 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**

**3. b) (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.

The University does not offer foundation courses.

**3. b) (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.

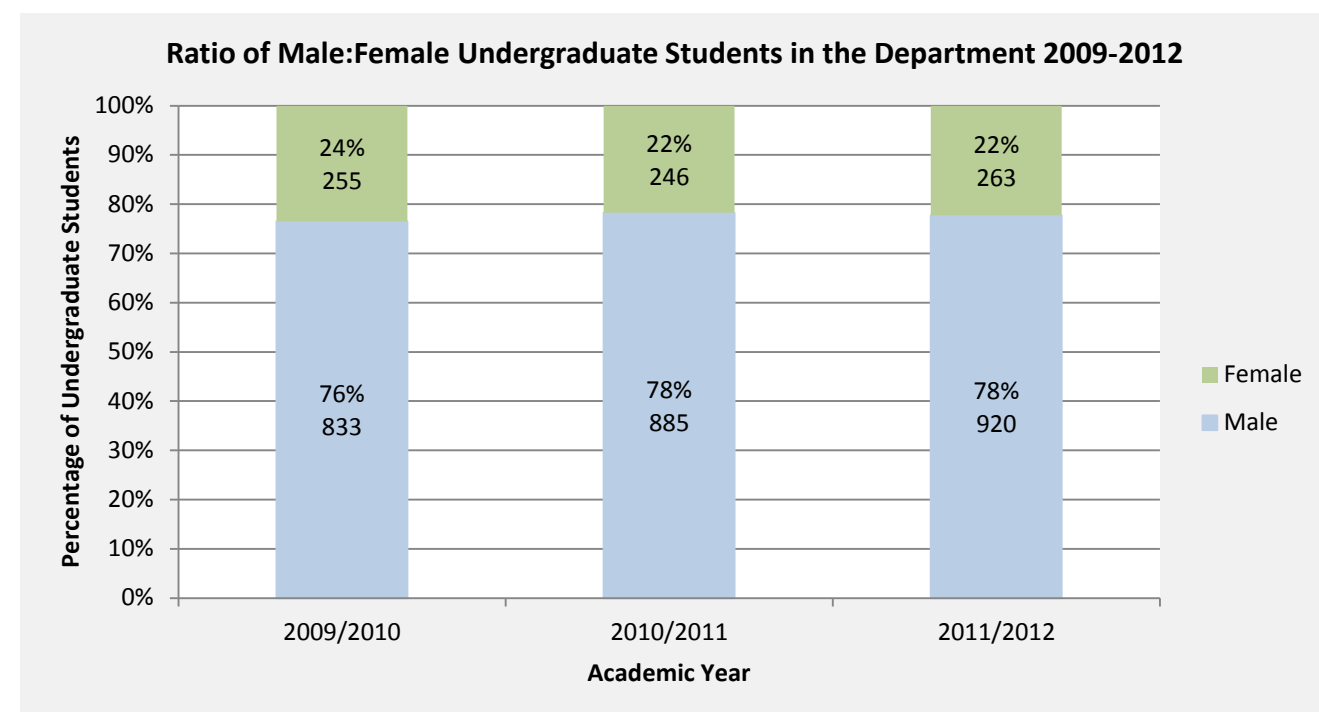


Figure 3. Total Undergraduate Students by Year and Gender

At Cambridge, the Colleges, and not the Department, have responsibility for undergraduate admissions. However, most academic staff in the Department are heavily involved with College admissions, actively encourage potential students, male and female, to consider embarking on a career in engineering, and the Colleges strive to achieve a balanced intake averaged across all disciplines. Cambridge has two women-only Colleges which admit about 15% of all the female students admitted to Cambridge each year. The women-only Colleges are given priority in the selection of female applicants pooled after the first stage of admissions. There is a good balance between male and female students averaged across all subjects with most Colleges having a 50:50 split.

The number and percentages of male and female undergraduate students in engineering in the last three years are presented above in Figure 3. The percentage of female students is in the range of 22 to 24%, significantly above the national HESA figures for general engineering (which give an average of less than 15% female).

**3. b) (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.**

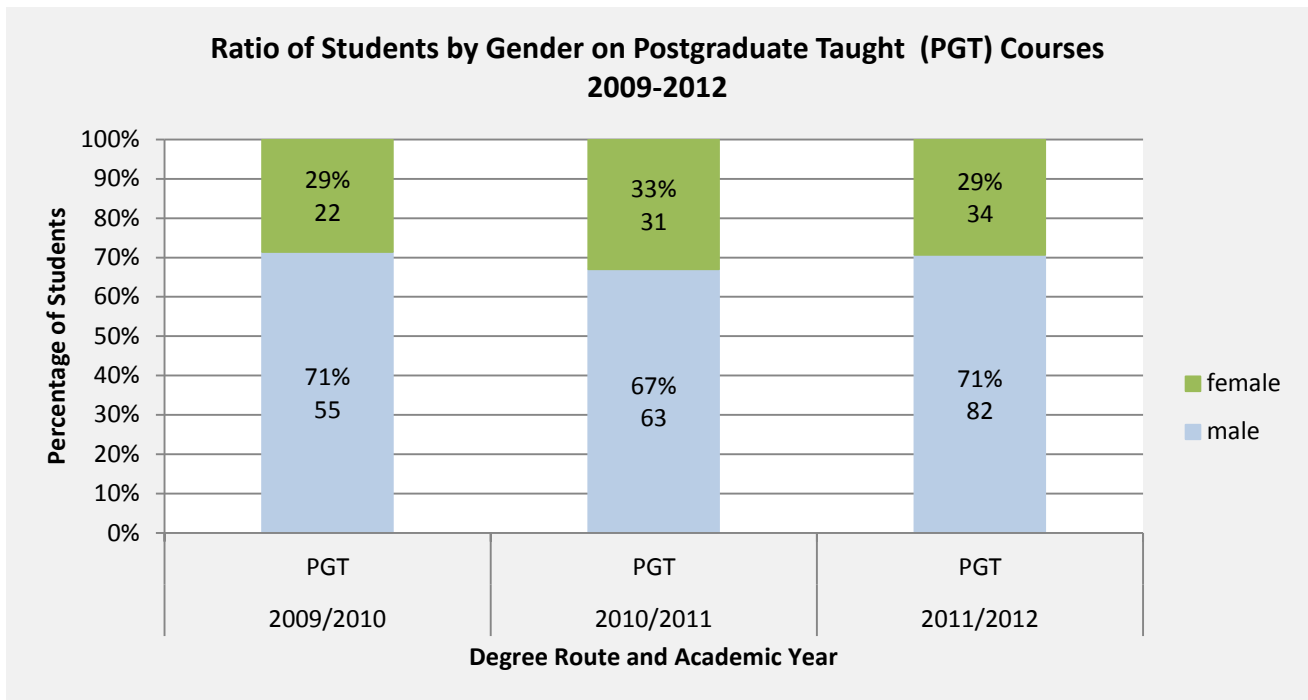


Figure 4. Total number on Postgraduate Taught Courses by Gender and Year

The Department offers a number of one year postgraduate taught Masters courses and introduced a further three new courses in 2011<sup>2</sup>. The female ratio on these courses, shown in Figure 4. is in the range 29-33% between 2009-2012. This proportion is in line with the national figures for these types of courses and is a higher ratio than on postgraduate research courses. There is some, albeit anecdotal, evidence that the shorter nature of postgraduate taught courses may appeal more to female applicants than male and the SAT will investigate this in more detail (See 3 b) (iv) page 15). **[ACTION 3: MONITOR & REVIEW DATA]**

It is also noted that a majority of these students are from outside the UK and less than 20% of the home students taking these courses are female whereas more than 30% of the overseas students are female.

The part-time M.St. in Interdisciplinary Design for the Built Environment has recently seen a significant increase in female students (now 50%) which has coincided with the course's Industrial Advisory Group being chaired by Fiona Cousins of ARUP (a commercial company of engineers) and the appointment of other female members to the group. ARUP is well known for its strong support of women engineers and a number of ARUP staff on this course are female. However, many of the current students are not from an engineering background. The SAT will monitor all the taught postgraduate courses and facilitate the exchange of good practice between courses. **[ACTION 3: MONITOR & REVIEW DATA]**

A new M.St. in Construction Engineering was launched in September 2011 from the Laing O'Rourke Centre for Construction Engineering and Technology, and is modular and part-time over two years. The first cohort had fourteen students with one female. The second cohort had eighteen students with two females. Construction has traditionally been a male-dominated profession and these cohorts reflect the small percentage of women in this industry. The Course Director is a female engineer from industry and has been promoting the course with the aim of attracting more women candidates, mainly through presentations to industrial partners. In these presentations the

need to increase diversity in the profession is highlighted as well as raising awareness of gender imbalances and the need to create a more inclusive environment for women and minority groups.

<sup>2</sup><http://www.eng.cam.ac.uk/postgraduate/prospective-students/taught-courses/>

**3. b) (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.**

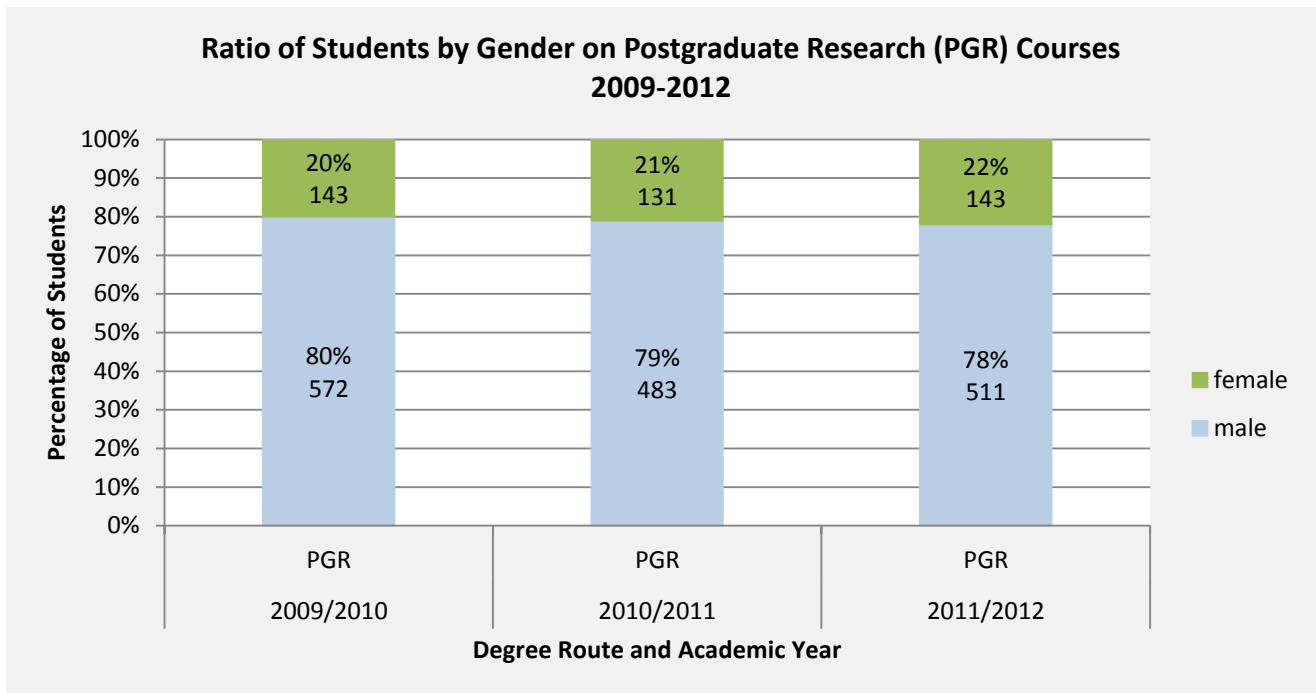


Figure 5. Total Number on Postgraduate Research Courses by Gender and Year

The Department offers both one year (M.Phil.) and three year (Ph.D.) postgraduate research courses across all divisions, some of which are in collaboration with supervisors in other departments in the University. Typically less than 10% of students on research degrees study for an M.Phil. The male:female ratio on those courses, shown in Figure 5, was in the range 20-22% in 2009-2012, which is in line with the national figures for such courses, but which is lower than on taught courses. The differences in the proportion of women on M.Phil. and Ph.D. courses in the Department will be investigated in more detail (See 3 b) (iii) ). **[ACTION 3: MONITOR & REVIEW DATA]**

**3. b) (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.**

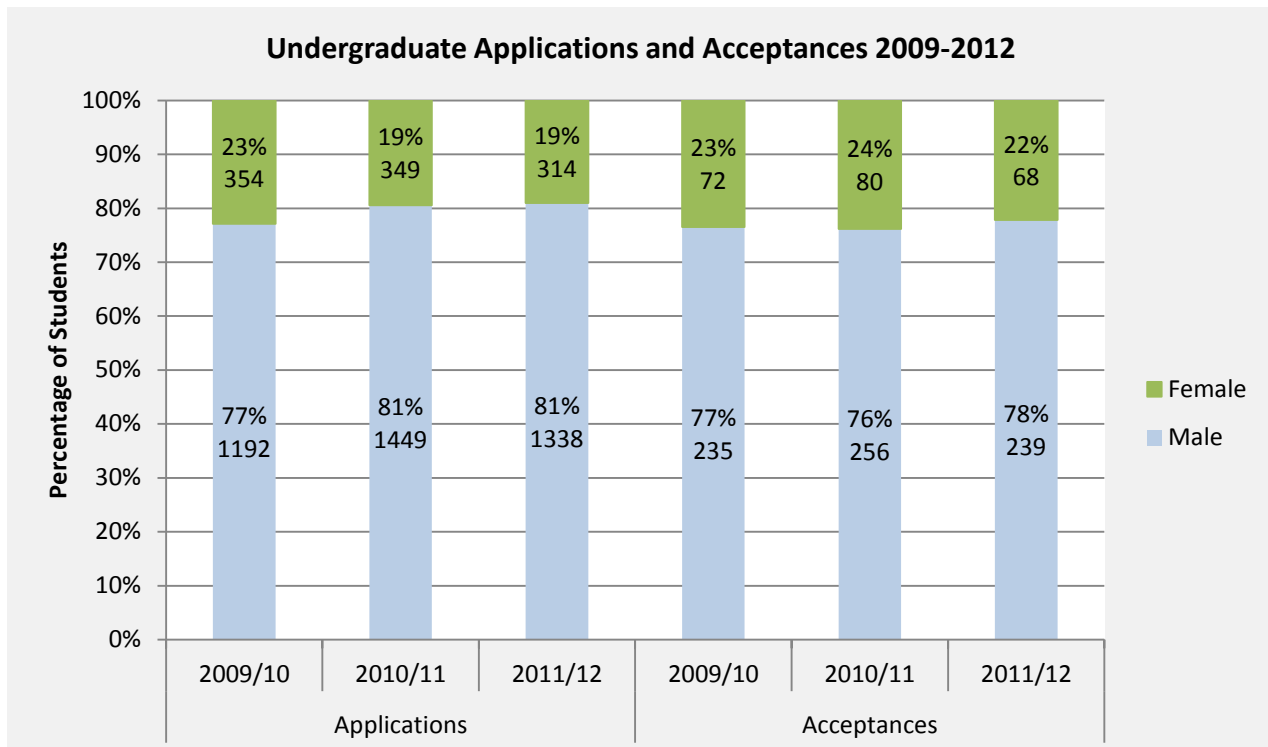


Figure 6. Undergraduate Applications and Acceptances 2009–2012. Applications data in this section refers to applications made the previous year for courses commencing in the October of the academic year stated

The Colleges manage the undergraduate applications and admissions process (See 3. b)). Attracting more female undergraduates to engineering is an important feature of the normal recruitment process. Male and female academics are involved in outreach activities in schools, and have a presence at local and national events and the Department has an Outreach Officer (Mrs Maria Kettle). Some Colleges hold information events especially for girls. Female staff have been involved in making documentaries for schools on women in engineering. Female Academic Staff, Research Students and Undergraduates actively engage with potential female applicants at the Department Open Days. **[ACTION 1: AWARENESS]**

The SAT sought data from the Royal Academy of Engineering on Diversity. This showed that there seem to be two major difficulties in increasing female undergraduate registrations. The first is the low number of female entrants taking Physics A-level (about 22%) and the second is that within this group, the female preference is to use this qualification to study subjects other than engineering (e.g. Medicine), whereas the male preference is predominantly engineering. The Department's outreach activities will be key in effecting change to attract more female student applicants (See 4.3 b) (v) Organisation and Culture). **[ACTION 1: AWARENESS]**

The reputation of the University and Department, in addition to the University's high entrance qualification requirements, result in the Department receiving high quality applications and hence it can be extremely selective in this process with the conditions of almost all conditional offers met by the candidates. The female applicants are slightly more likely to receive an offer, but there is no significant evidence of gender bias in their favour. The University's admissions process is under constant internal and external scrutiny and based on the results achieved at Cambridge there is no evidence that any group of applicants is advantaged or disadvantaged by the selection procedures. **[ACTION 3: MONITOR & REVIEW DATA]**



Course	Year	Female Applications	Female Accepted	% F Acceptances from Applicant Pool	Male Applications	Male Accepted	% M Acceptances from Applicant Pool
M.Phil. Taught (totals)	2009/2010	108	55	51%	250	111	44%
	2010/2011	183	53	29%	390	144	37%
	2011/2012	204	74	36%	467	158	34%
M.Phil. Research	2009/2010	35	14	40%	86	24	28%
	2010/2011	27	11	41%	71	19	27%
	2011/2012	20	9	45%	59	20	34%
Ph.D.	2009/2010	92	55	60%	362	179	49%
	2010/2011	102	63	62%	371	216	58%
	2011/2012	124	79	64%	383	216	56%

*Table 3. Male & Female Applications and Acceptances onto the Taught and Research M.Phil. Courses*

Table 3. provides the data on the percentage of applicants that receive offers for the two research degrees and the aggregate of the five taught M.Phil. courses. Approximately 50% of the offers are converted into new entrants, where the lack of funding is most often the cause of an offer not being taken up. There is significant variation from course to course and year to year on the success rate, but there appears to be no consistent bias towards either gender. The female applicants to the M.Phil. by research receive more offers per application than the male applicants but the numbers here are small. There has been a significant increase in the number of female applicants for Ph.D. degrees which is proportionately larger than the corresponding increase in male applicants. It has been noted that the majority of increases in applications are from overseas students.

**3. b) (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.

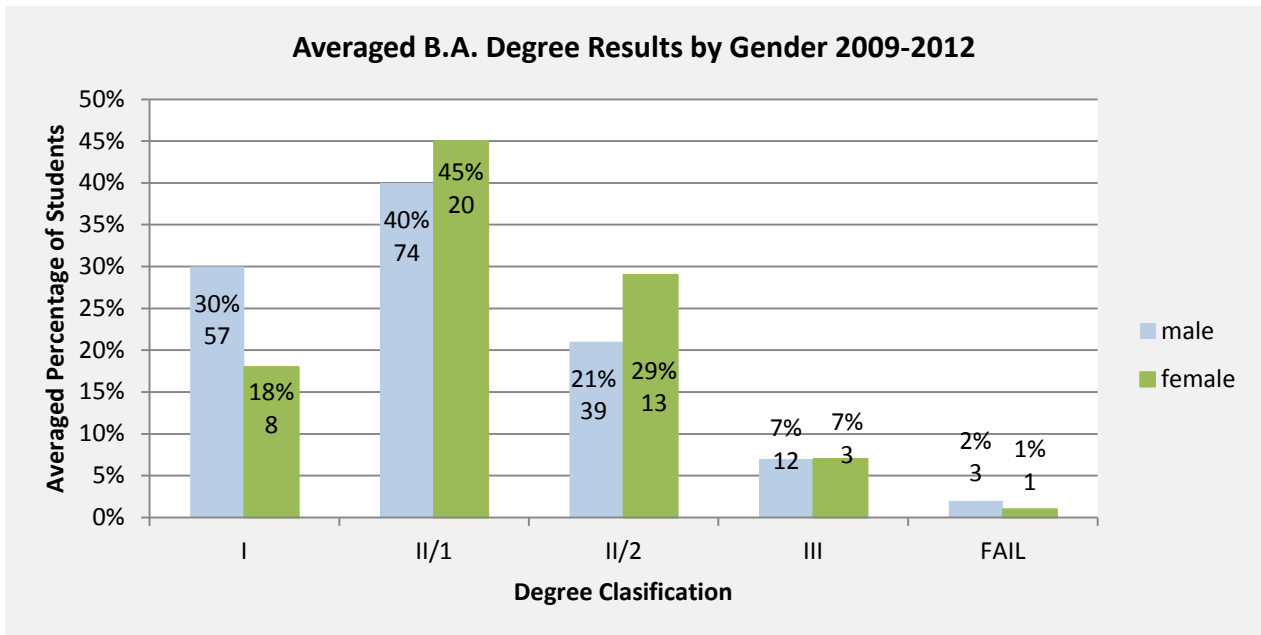


Figure 7. Averaged B.A. Degree Results by Gender 2009–2012

Each year of the degree course is classed separately. Over the three years 2009-2012 there was little variation and the averaged results are shown in Figure 7 for the third year assessment. It can be seen that women receive significantly fewer firsts in each year of the course, with the biggest discrepancy in their first year. This has for some time been a cause for concern, and in 2009 the Head of Department commissioned a study by Dr Claire Barlow (currently Director of Undergraduate Education). The recommendations of this study were made to the Teaching Committee and were concerned with creating a more supportive working environment for all students, and specifically improving gender awareness issues amongst all staff and students involved in teaching. Specific actions have been taken on some recommendations. Marking of some coursework is now done by candidate number rather than by name. Gender awareness is now explicitly included in the in-house supervisor training conducted in the Department. Gender awareness pointers are included in guidance to staff and students involved in laboratory teaching. The inclusion of an introductory project (Lego Mindstorms) addressed some of the skills gap between students from different backgrounds. The SAT will monitor progress in this area. **[ACTION1: AWARENESS] [ACTION 3: MONITOR & REVIEW DATA] [ACTION 5: PPD]**

The M.Eng. results are given in Figure 8. and demonstrate that the gender gap is much reduced at this stage. The reasons for this are not clear. The Departmental statistics do not, for example, show any gender difference in coursework performance, so that the balance to more coursework and project work in the M.Eng. does not offer an explanation. Note that the M.Eng. students are in the same cohort as in the third year with the entry requirement that they earned a class 2(ii) grade or better in either their second or third year results. Only a handful of students leave after their third year.

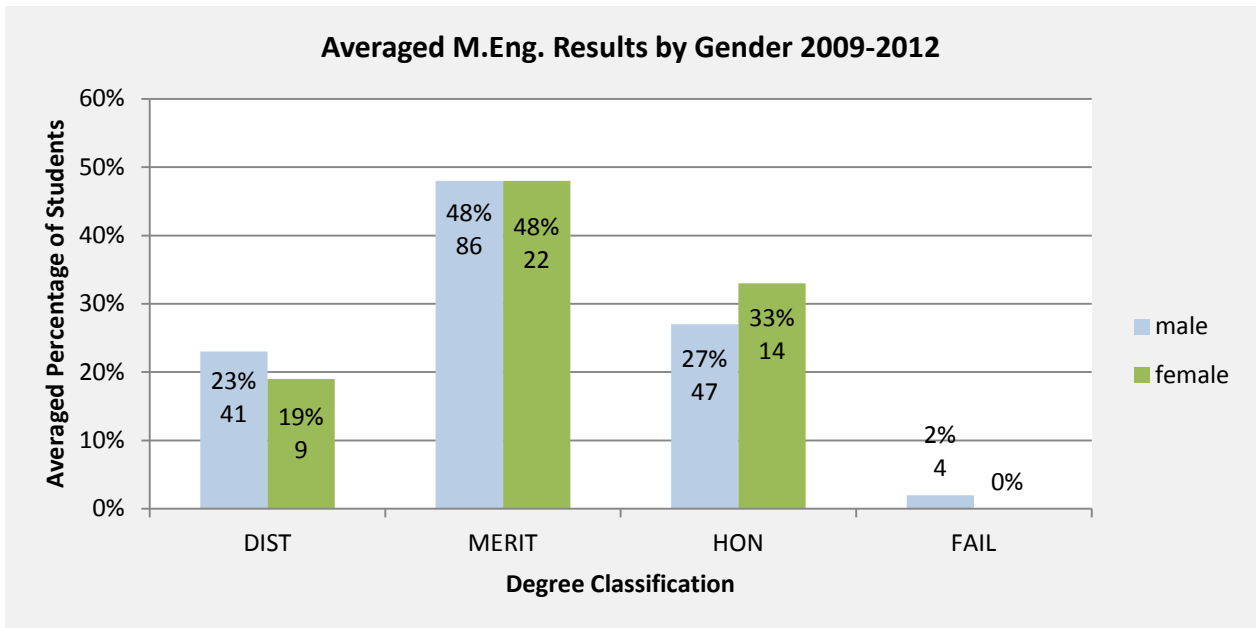


Figure 8. Averaged M.Eng. results by gender 2009–2012

The Manufacturing Engineering Tripos (MET) is a pathway that students can choose to take in years three and four and is a separate Tripos (see Figure 2.). Numbers are smaller than for Engineering with about 32 students in each of the two years of whom 30-40% are female. As seen in Figures 9. and 10. below, women out-perform men in both years of the course with on average a significantly higher proportion gaining Firsts and Distinctions and the typical female student improving by one class on their second year results. However the numbers are relatively small and caution should be exercised in drawing any general conclusions. The SAT will continue to review the data to identify any on-going trends. **[ACTION 3: MONITOR & REVIEW DATA]**

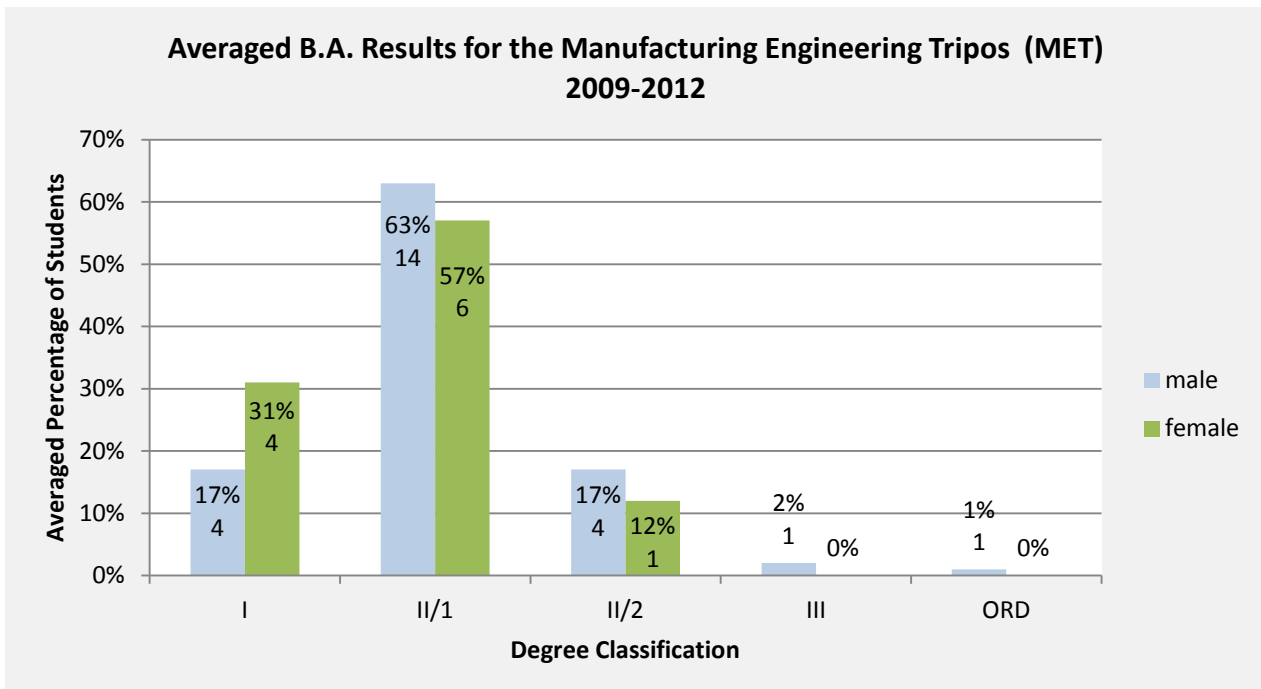


Figure 9. Averaged B.A. Degree results by gender for the Manufacturing Engineering Tripos 2009–2012

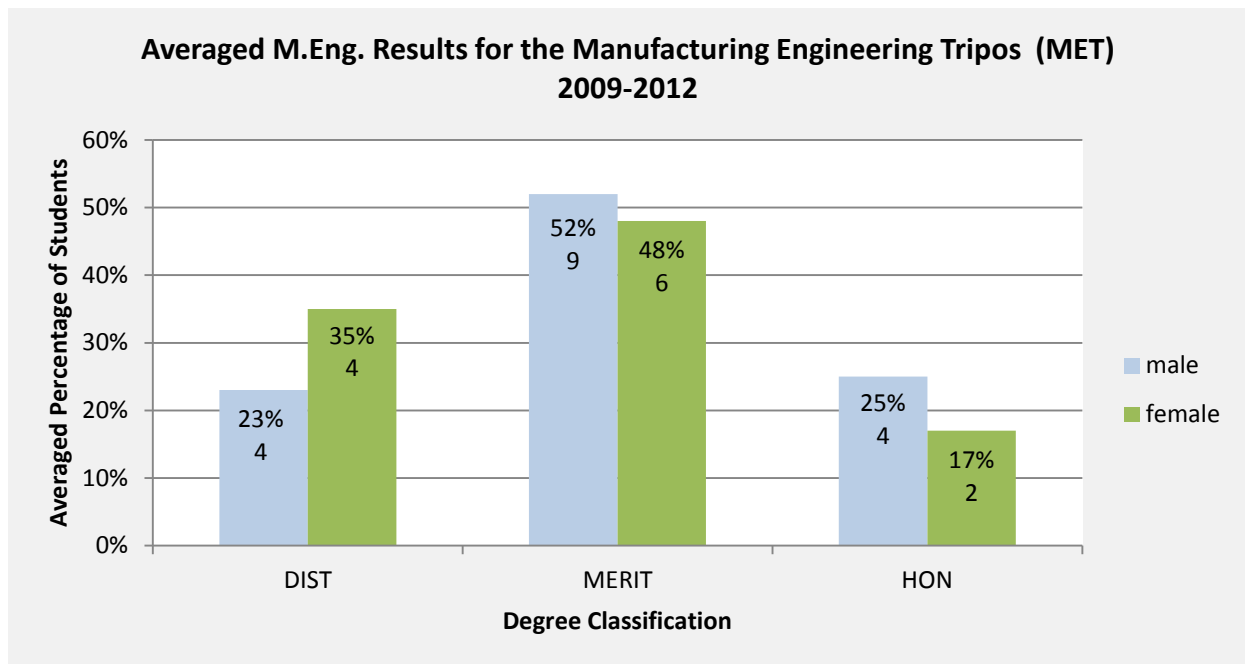


Figure 10. Averaged M.Eng. results by gender for the Manufacturing Engineering Tripos 2009–2012

The SAT will run a number of focus groups with MET and Engineering students to investigate reasons for differences in degree results and why more women chose MET over Engineering  
**[ACTION 3: MONITOR & REVIEW DATA]**

**Staff data**

**3. b) (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 Plan is being taken to address any underrepresentation at particular grades/levels.

		2009	% total	2010	% total	2011	% total	2012	% total
Academic		131		136		134		138	
	Female	9	7%	9	7%	11	8%	11	8%
	Male	122	93%	127	93%	123	92%	127	92%
Researcher		262		248		249		237	
	Female	62	24%	58	23%	51	20%	53	22%
	Male	200	76%	190	77%	198	80%	184	78%

*Table 4. Staff in the Engineering Department as at 1 October 2009-2012*

For the recruitment of Academic Staff, the Department seeks to appoint candidates where the primary requirement is to develop a record of world class research commensurate with its international reputation together with a clear commitment to undergraduate education.

In the period 2009–2012, the Department recruited seven new members of Academic Staff, two of whom were women. In February 2013, not included in the data shown above, the Department has recruited a female University Lecturer in Bioengineering and in March 2013 also has another University Lectureship under offer to a female candidate. The SAT are encouraged that the total number of female appointments has positively increased in the time period shown (See Table 4.). The average rate of growth in academic posts over the period 2006–2013 is 2.7 per annum providing an opportunity for further female appointments.

The influence of the Department's Athena SWAN initiative has resulted in positive steps being taken to address the current gender imbalance (See sections 4.1 a) (i) Job application and success rates by gender and grade and 4.1 b) (i) Recruitment of Staff). **[ACTION 4: RECRUITMENT PRACTICES & PROCEDURES]**

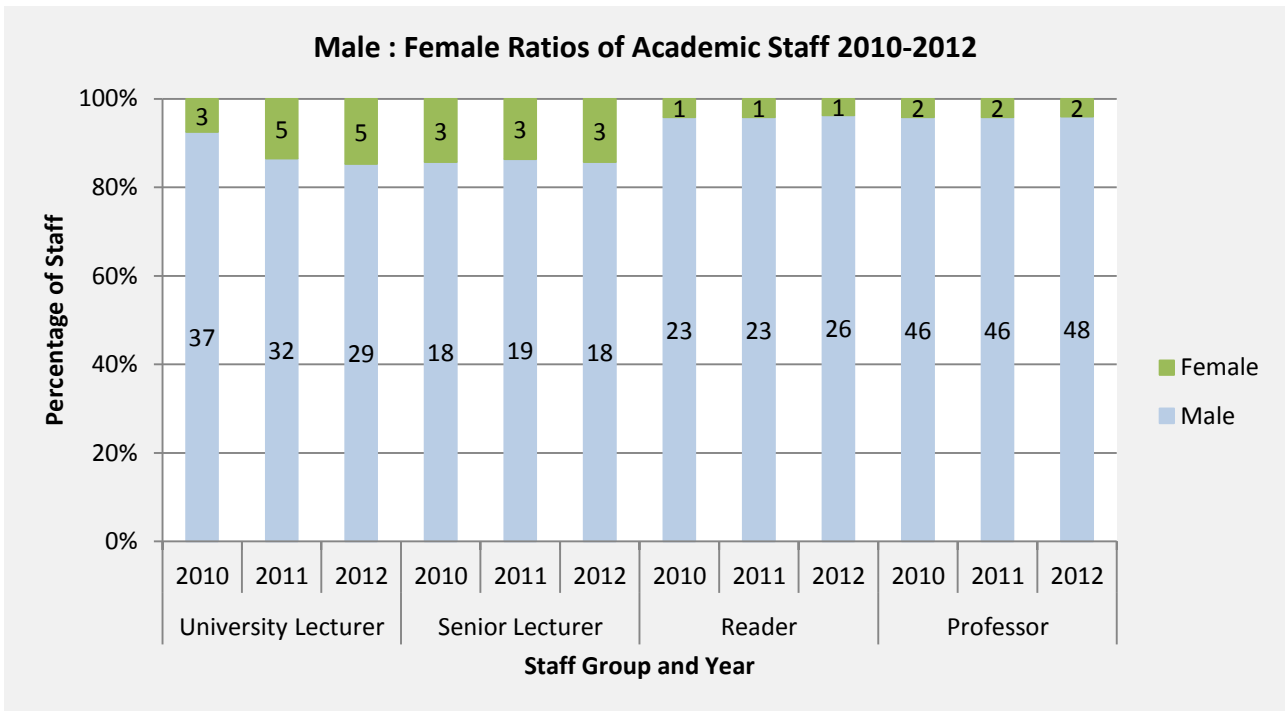


Figure 11. Male: Female ratios of academic staff 2010-2012

In recent years the Department has recruited a number of female University Lecturers who are progressing from appointment through probation and promotion. Although the number of female Readers and Professors is still relatively low (See Figure 11). It is anticipated that these numbers will improve in time with the progression of these appointees. The SAT will review the data to monitor continuing progress. **[ACTION 3: MONITOR & REVIEW DATA]** **[ACTION 4: RECRUITMENT PRACTICES & PROCEDURES]** **[ACTION 5: PPD]**

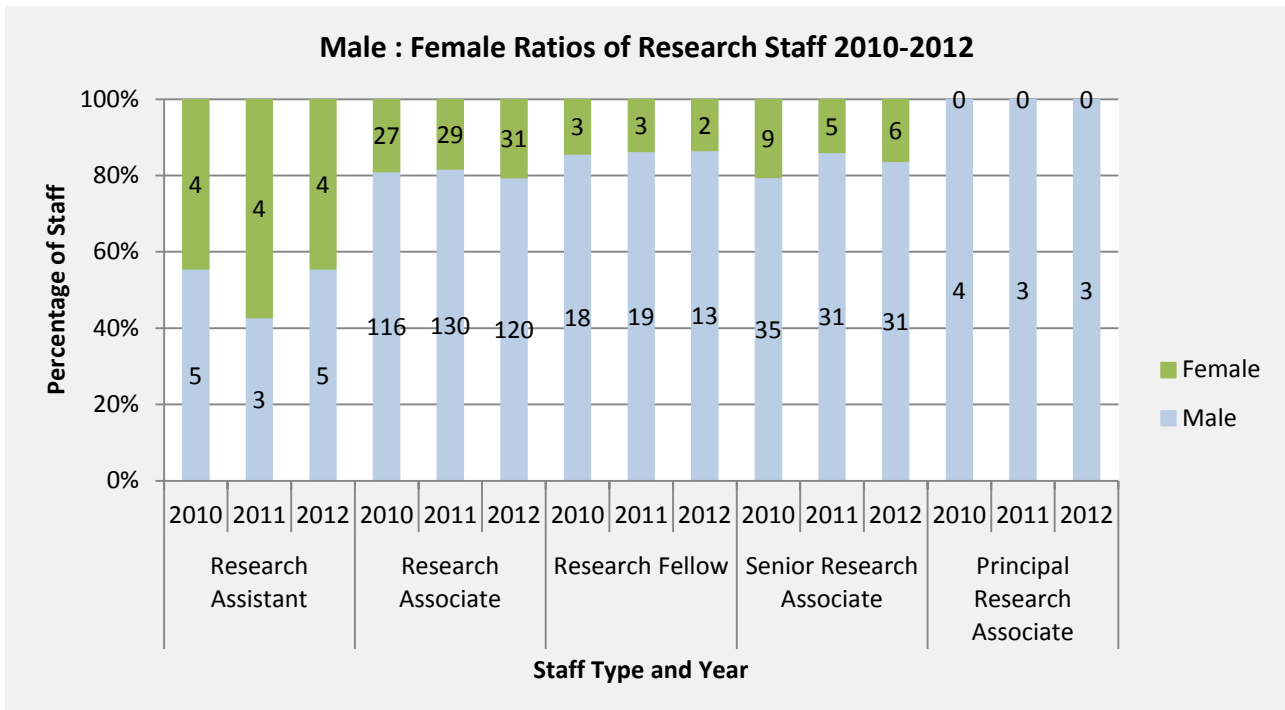


Figure 12. Male:Female ratios of research staff 2010-2012

The small changes in the percentage of female researchers, shown in Figure 12, are probably no more than statistical fluctuation in the range 20-24%.

The percentage of Research Assistants that are female is markedly higher than the percentage of females that are Research Associates. Research Assistant appointments are typically for pre-doctoral researchers and the numbers are very small so it is not possible to draw any firm conclusions from this data.

The percentage of Research Fellows that are female is lower than for other grades. This might be a result of the external funding bodies' application processes. The funding bodies may not make allowances for applicants having taken career breaks and may favour those who enjoy quite combative interview processes. The Department coaches all applicants for research fellowships to improve their paper submissions and their interview performance.

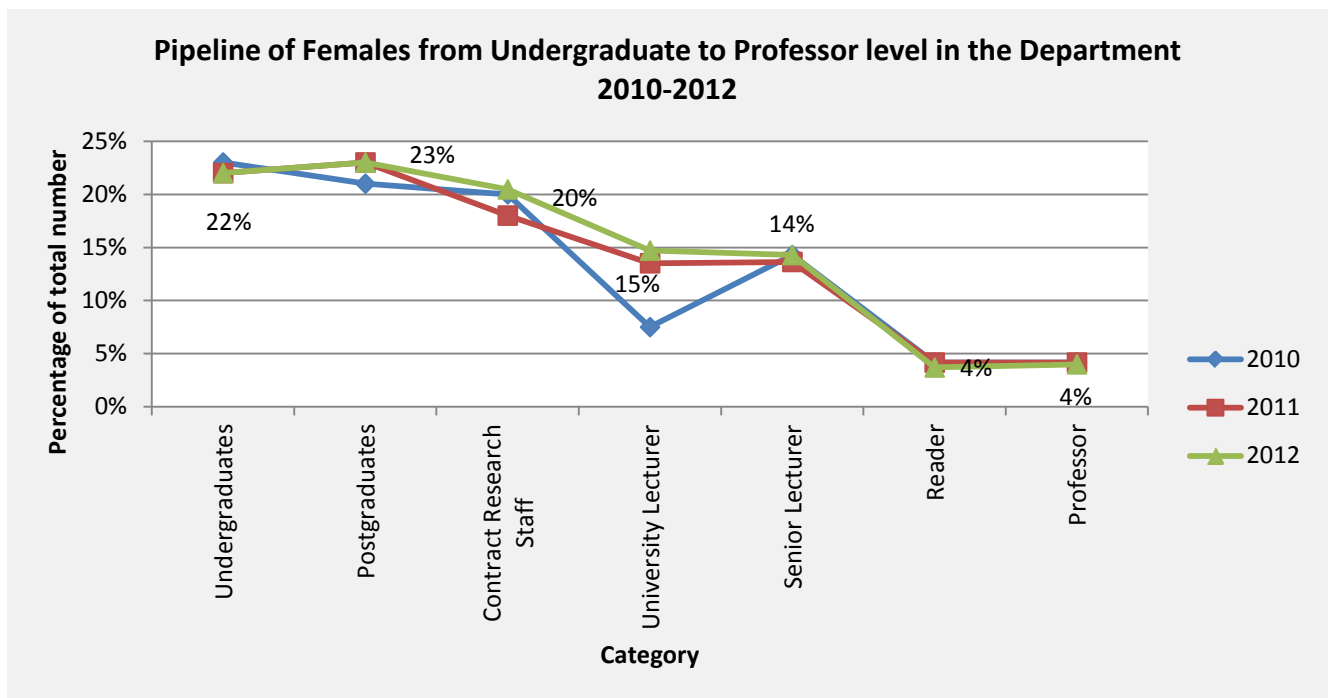


Figure 13. Pipeline of Females in the Department 2010–2012 (data labels are for 2012 only)

The chart shown in Figure 13. illustrates a 'pipeline' that shows the numbers of females at the various stages from Undergraduate to Professorship which provides a helpful overview. However, it is understood that our students and staff leave for appointments around the world and there is inward recruitment at each stage. It is unusual to progress through all these stages within one Department.

**3. b) (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.

The Department's turnover in academic posts in terms of staff leaving to take up other appointments is very low and turnover is more normally related to retirement. The turnover of Academic Staff during the period of review is two males (one left for family reasons and the other for a combination of academic and personal reasons). There is no real evidence that turnover is different for men and women.

The turnover in research posts is higher than that of the Academic Staff with the majority of research staff leaving to progress their careers after completion of projects in the Department. Each year approximately 75 Research Staff leave, mostly to take up academic or industrial posts, 75 start and 150 have their contracts renewed. A small number are appointed to academic posts in the Department.

The SAT plans to review the data gathered from exit questionnaires and staff feedback to help determine the reasons behind staff turnover. **[ACTION 1: AWARENESS]**



#### 4. Supporting and advancing women's careers: maximum 5000 words (5349/5000 words)

##### 4.1 Key Transition Points

4.1 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.

4.1 a) (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.

Applicants			Shortlisted			Appointed	
Male	Female	Total	Male	Female	Total	Male	Female
249	33	282	46	7	53	11	2
88%	12%		87%	13%		75%	15%

Table 5. Academic Applications and Success Rates by Gender from August 2009 to Present. All these positions were Grade 9 (i.e. University Lecturer or equivalent)

Applicants				Appointed	
Male	Female	Not specified	Total	Male	Female
683	118	268	1069	68	18
64%	16%	20%		79%	21%

Table 6. Research Associate Applications and Appointments Jan 2011-Oct 2012 (all data that exists)

The data in Tables 5. and 6. clearly indicates that the lack of female appointments is related to low numbers of female applicants, nevertheless, the Department is committed to addressing issues concerned with gender imbalances and maintaining/increasing the current level of female academic staff.

The SAT, in reviewing the data for undergraduate and graduate applications and admissions, believes that outreach activities should be targeted in the Action Plan with the aim of increasing the number of females applying to engineering which may have a positive effect in the longer term on the numbers of female academic staff recruited. The SAT has consequently reviewed current departmental outreach activities and has identified ways in which the Department can consolidate and improve in this area (See 4.3. b) (v) *Outreach Activities*). **[ACTION 1: AWARENESS] [ACTION 3: MONITOR & REVIEW DATA]**.

Colleges have responsibility for the admissions of undergraduates, which is another factor. The Department's input to this activity is managed through the Directors of Studies. The SAT have agreed to make student statistics by gender available to them and ask them to be aware of any gender imbalances in the admissions process. **[ACTION 1: AWARENESS]**

Engineering at Cambridge has a long history (130 years plus) and has consistently been a world-leader in cutting edge research. New areas of research in the Department have attracted an increase in the number of female applications. A good example would be the University Lectureship in Bioengineering which resulted in a higher proportion (55 male, 15 female) of female applicants than is usual. The successful candidate was female.

The Department is committed to building on current good practices and has begun implementing changes. These would include recently introduced changes to the format for further details for academic posts to include information on family friendly policies. **[ACTION 4: RECRUITMENT PRACTICES & PROCEDURES]**

The Athena SWAN initiative has prompted the Department to take forward procedures for Search Committees and a more robust data monitoring scheme for academic appointments. This data will be reported to the Academic Committee annually and will allow the SAT to monitor progress in this area. **[ACTION 1: AWARENESS] [ACTION 4: RECRUITMENT PRACTICES & PROCEDURES]**

The data associated with Research Staff appointments shows a higher percentage of female applicants than for academic posts. At present, no action is being taken, however, to address gender imbalances although a current review of recruitment processes is underway. The data will continue to be monitored. **[ACTION 1: AWARENESS] [ACTION 3: MONITOR & REVIEW DATA]**

#### **4.1 Key Transition Points**

**4.1 a) (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.

The number of female staff applying for promotion is consistent with the number eligible. Although the number of women staff is small, there are women in each of the grades of staff. There are currently two women holding University Senior Lectureships, one holding a Readership and one holding a Professorship who have been promoted via the Senior Academic Promotions (SAP) Exercise.

The Department is required to follow the University procedures for Senior Academic Promotion and all eligible staff are invited to apply for promotion. Applicants who are contemplating applying for promotion are encouraged to consult the Head of Department or a senior academic colleague (quite often this would be the Head of Division). This allows candidates the opportunity to receive advice, coaching and mentoring on the requirements of the scheme, including the content and timing of an application. The Head of Department, with assistance of appropriate senior colleagues, also reviews the position of eligible academic staff with a view to encouraging those they consider to have a good prospect of success to apply. In addition to this, staff are advised of the University support, including the SAP CV scheme (*see 4.1 b) (ii) Support for Staff at Key Career Transition Points*).

The SAP data were reviewed by the University Gender Equality Group which made a number of recommendations. The SAP exercise was significantly updated in 2011 and 2012, with a number of changes to benefit progressing gender equality.

Of particular benefit to progressing gender equality are the following changes:

- Encouragement to include **additional considerations**, for example caring responsibilities, periods of maternity/paternity/adoption leave, bereavement, ill health or injury, or disability.
- Evidence of '**general contribution**' has been broadened to include any work outside the Faculty/Department/University and contributions to the subject made more widely, such as widening participation activity, the design and delivery of outreach programmes and, where appropriate, clinical work.
- Emphasis on the provision of **advice, mentoring and coaching** by the Head of Institution (or a senior academic colleague) before applying and as part of the feedback process to unsuccessful applicants.

#### **4.1 Key Transition Points**

**4.1 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.*

**4.1. b) (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.*

The Department does face significant challenges in addressing current gender imbalances and has been actively working to take positive steps in the recruitment of staff. The Department follows the University’s robust Equal Opportunities Policy<sup>3</sup> and, in addition, the Combined Equality Scheme outlines how the policy is implemented and also supports and promotes diversity networks for minority groups. Subject to the law, no applicant for a staff appointment or member of staff will be treated less favorably than another on the grounds of sex, gender reassignment, marital/civil partnership or parental status, race, ethnic or national origin, colour, disability, sexual orientation, religion, or age. Ability to perform the job will be the primary consideration.

Employment within the University and progression in that employment is determined only by personal merit and performance. This is done by applying criteria which are related to the duties and conditions of each particular post and the needs of the department concerned. There are exceptions in the Equality Law that outline how the use of ‘Positive Action’ can allow a more targeted recruitment of certain groups of people either before the application stage or during the selection process. These actions allow under-represented groups to be encouraged to apply for a position in the first instance although selection for interview must still be on individual merit. Positive Action can then be taken during the selection process when considering two candidates of equal merit when the under-represented group can take precedent<sup>4</sup>.

The Department is considering introducing procedures to be followed by Selection/Search Committees for Academic posts to ensure consistency and good practice across all six Academic Divisions. The recommendations of all Selection Panels are currently approved by the Faculty Appointments Committee to ensure a standard of appointment is maintained. For Research posts, new arrangements are being put in place to support Principal Investigators in making research staff appointments. This includes introducing generic criteria for each grade of staff to improve the quality of objective decision making. **[ACTION 4: RECRUITMENT PRACTICES & PROCEDURES]**.

Advertisements for both academic and research posts include reference to the Department’s commitment to Equal Opportunities Policy. For academic posts the further particulars include details of the University’s family friendly policies such as maternity leave policies and flexible working arrangements and the Athena SWAN application. **[ACTION 4: RECRUITMENT PRACTICES & PROCEDURES]**

<sup>3</sup> <http://www.admin.cam.ac.uk/offices/hr/policy/equal.html>).

<sup>4</sup> <http://www.admin.cam.ac.uk/cam-only/offices/hr/recruitment/equality/exceptions.html#action>

#### **4.1 Key Transition Points**

**4.1 b) (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.

The Department aims to support all staff in their personal and professional development and, in addition to following University policy also has a number of its own initiatives. These include the following:

- Academic and Research Staff are assigned to one of the six Academic Divisions on appointment. The Head of Division offers advice and support as required. For example a member of staff considering applying for Senior Academic Promotion would seek advice from their Head of Division or the Head of Department before applying;
- A mentor is assigned to each newly appointed member of the Academic Staff. The mentor is typically a more senior/experienced member of staff and is not in the management chain/line. The newly appointed staff member can call upon their mentor for informal guidance. The Department plans to introduce training for mentors. **[ACTION 5: PPD]**

A mentoring scheme is also in place for Research Staff. The mentor must not be the relevant Principal Investigator (PI). The mentor will offer informal advice on career development.

- All Academic Staff undergo a rigorous probation. An enhanced five-year probation scheme was introduced in 2005/2006. The scheme provides constructive feedback on performance to support staff in establishing independent research activity in the Department. The scheme focuses on performance in research, teaching and general contribution. As a result of annual probation reviews, positive action has been taken to support new academic staff where a need to redress imbalances across the three areas of activity has been identified. Extensions to probation have been approved for personal and professional circumstances.

For Research Staff, the probation period usually lasts for 6 months. The probation reviews will be held by the Line Manager or Principal Investigator. Reviews are held to ensure that the researcher understands the requirements of the post and provide the opportunity to discuss any improvements which need to be made and the methods by which improvements are to be achieved. Support is given in the form of an increased level of supervision, additional guidance or training.

- The Academic Staff Review and Development programme, which seeks to provide career development support, allows for reviews to take place once every two years. Staff review is also available to Research Staff.
- The Women in Engineering Forum provides the opportunity for female Academic and Research Staff and students to meet informally and be able to discuss issues, career development and have an opportunity to network. **[ACTION 2: CULTURE]**

The Department aims to exchange good practice in the procedures for supporting different staff groups. The Department's Academic Probation Scheme has been shared with other Departments.

The other University schemes/programmes that are available include:

- The Senior Academic Promotions (SAP) CV Scheme. The aim of the scheme is to encourage and support more female academics to apply for promotion within the

University, with the aim of addressing the under-representation of women academics in senior positions. The SAP CV Scheme introduces a female Lecturer, Senior Lecturer or Reader who is thinking of applying for promotion, to a senior academic who has extensive experience of the University's Senior Academic Promotions procedures. The process creates an opportunity to have an experienced academic review their CV and promotion paperwork before it is submitted.<sup>5</sup> [ACTION 5: PPD]

- An 'Emerging Leaders' Development Programme' pilot was run in the Department (Summer/Autumn 2012), sponsored by the Head of Department and Director of Research. The learning focus of this new Personal and Professional Development (PPD) programme was the development of capabilities in self-leadership, leading others and career management. This three month programme was designed for Research Staff and combined an introductory lecture with 3 half-day workshops, individual coaching and a cohort-confidential online discussion forum. In this pilot, women participated in proportionally higher numbers than men, making up 30% of the participants compared to a proportion of female Research Staff of approximately 20% in the Department. A second iteration is planned by PPD, for a broader population of Research Staff in Spring/Summer 2013 and an evaluation of learning and of impact will be completed in Summer/Autumn 2013. The feedback from each session will be considered by the SAT and any actions taken forward. [ACTION 5: PPD].
- WiSETI: A Programme which aims to redress an under representation of women in employment and career progression in STEM subjects in Cambridge. Many women in the Department participate in the programmes/lectures.
- Springboard Events: A personal development programme for all women staff/graduate students (*see also 4.2 a) (iii) Support for female students*).
- Women in Academic Leadership Group: Originally established from within the Judge Business School with the aim to establish a collaborative community, promote leadership and facilitate a conversation about challenges, opportunities and rewards for women in academia. The programme is being run this year in the Department and a series of events is planned and will be led by an engineering student.

<sup>5</sup> <http://www.admin.cam.ac.uk/offices/hr/equality/wiseti/cv/>

## **4.2 Career development**

**4.2 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.

**4.2 a) (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?

For Academic Staff in the very early stages of appointment, the Department aims to offer support in terms of induction and may provide additional financial support (start-up funds) and always provides mentoring support. The University also offers additional support and staff induction is offered by both the University and the Department. The steps in the development process are:

- First Stage: Newly appointed Academic Staff complete a satisfactory five year probation period, establish themselves in the Department and establish individual research activity (See 4.1 b) (ii) Support for staff at key transition points).
- Second Stage: The staff member will then be subject to the Staff Review and Development Programme to provide continued guidance on career development. The University is reviewing the arrangements for staff review and the Department will implement these changes in due course. The engagement with Academic Staff is good and it is hoped that these developments will further improve its effectiveness. **[ACTION: 5 PPD]**.
- Third Stage: Staff consider applying for Senior Academic Promotion. The Department's Academic Probation Scheme and the University-wide Senior Academic Promotion Scheme have three evaluation criteria: Research, Teaching and General Contribution. There is a requirement to demonstrate excellence and satisfactory progress in all three criteria. General Contribution includes contributions within the Department, to outreach and more widely to the academic community (See also 4.3 b) (i) Representation on decision making committees).

For Research Staff there is a six month probation period. The PI can apply for contribution increments in salary of between one and three increment points to reward excellent performance of Research Staff and this scheme is available three times a year. Decisions about the promotion of Research Staff rests with the Principal Investigator and is overseen by the Director of Research.

**4.2 a) (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 has its own short induction programme for new members of staff to welcome them to the Department and the Department's commitment to Athena SWAN is included in this programme. In addition to this, the University offers an induction course to all staff and the Pathways in Higher Education Practice (PHEP) for academic staff <sup>6</sup>. [ACTION: 2 CULTURE]

Research Staff are offered a welcome pack on arrival in the Department and an induction by the PI. All Research Staff are offered a one-to-one meeting with a careers advisor in the first weeks of their employment. This meeting is to discuss career opportunities bearing in mind that most Research Staff use their position in this Department as a career advancing stepping stone.

There are many University-wide training courses offered in areas such as Personal and Professional Development, which are open to all staff and attended by a similar number of both males and females each year, which represents a higher proportion of female Academic and Research Staff. The Graduate Development Programme for research students was also attended by proportionately more females than males over the period 2009–2012.

The SAT, having recognised the requirement for female specific support and training within the Department, will use the Women in Engineering Forum as a platform through which to listen to the requirements of the female staff and postgraduate students across the Department. [ACTION 2: CULTURE]

The University offers on-line Equality and Diversity training and the SAT have made it a priority that all those on decision making committees and those who participate in recruitment processes must complete this training. As at 4 March 2013, fifteen academics within the Department had completed this course. [ACTION 6: MANAGEMENT AND REPRESENTATION]

<sup>6</sup> <http://www.admin.cam.ac.uk/offices/hr/ppd/information/academic/phep/index.html>



## **4.2 Career Development**

**4.2 a) (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 in all areas from their College, the Department and the wider University. Postgraduate students, who would prefer to have a female personal tutor and be in a predominantly female community, can apply to one of the University's three all-female Colleges.

The Department attaches a high priority to the support of students and it employs a Researcher Development Co-ordinator (Dr Sue Jackson). Dr Jackson organises a full set of researcher development activities for postgraduate students and postdoctoral workers in the Department, as well as making them aware of other opportunities across the University. Workshops cover essential skills such as developing assertiveness, building resilience, negotiation and being strategic. Relevant events and workshops will be publicised through the Women in Engineering website as well as by the Co-ordinator. In addition to this, the Researcher Development Co-ordinator offers individual 'skills analysis sessions'. This consists of a self-analysis of skills followed by a 40 minute face-to-face session to consider a personal development plan. The SAT has agreed to assign funding to widen this activity. **[ACTION 5: PPD] [ACTION 1: AWARENESS]**

The SAT arranged for the Department to fund three second year Undergraduate students to attend the Women's Engineering Society (WES) student Conference in 2012 and hopes to continue to fund attendance in the future. **[ACTION 5: PPD]** Other departmental support mechanisms are the many excellent female role models.

University support available would include:

- **Careers Services:** The website has a database of alumni who can be contacted and are available to mentor students to follow a specific career path. Careers Service professional advisors are available specifically for Science and Engineering Post-Docs. The advisors are women, and other individual mentoring sessions and interview skills training are available, tailored for both Academic and Non-Academic careers.
- **EnterpriseWISE:** This is a tailored entrepreneurship course for Ph.D. and early career women who are working in Science, Engineering and Technology, with the express purpose of developing skills, knowledge and confidence. It is organised and facilitated totally by women<sup>7</sup>.
- **Springboard:** A personal development programme for all women staff and graduate students, is delivered over the course of three months, includes work on assertiveness, self-confidence, work-life balance and career aspirations<sup>8</sup>.

<sup>7</sup><http://www.cfel.jbs.cam.ac.uk/programmes/enterprisewise/index.html>

<sup>8</sup> <http://www.training.cam.ac.uk/cppd/course/cppd-perdev3>

### 4.3 Organisation and culture

**4.3 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.

**4.3 a) (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.

Analysis of Committee Membership by Gender - Department of Engineering					
Committee Name	Chair		Members (Total)		% Female
	M	F	M	F	
Council	0	1	12	2	14%
Academic Committee	0	1	9	2	18%
Heads of Division	0	1	6	2	25%
Support Services Committee	0	1	4	3	43%
Faculty Appointments Committee	1	0	5	3	38%
Faculty Promotions Committee	0	1	6	3	33%
Assistant Staff Committee	0	1	8	7	47%
Termly Administrators Committee	0	1	1	7	88%
Faculty Board	0	1	22	9	29%
Teaching Committee	0	1	10	3	23%
Degree Committee	1	0	14	3	18%
Library Committee	0	1	15	3	17%
Minor Works Committee	1	0	2	2	50%

Table 7. Male & Female Representation on Committees

The Head of Department and the Department's Academic Committee ensure that committee membership is representative (research interests, career stage, etc.) and, where possible, a good balance of male and female members on all the Department's committees.

The Department has agreed that the SAT will become a standing committee and an integral part of the Department's committee structure reporting to the Academic Committee. **[ACTION 1: AWARENESS]**

**4.3 Organisation and Culture**

**4.3 a) (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.**

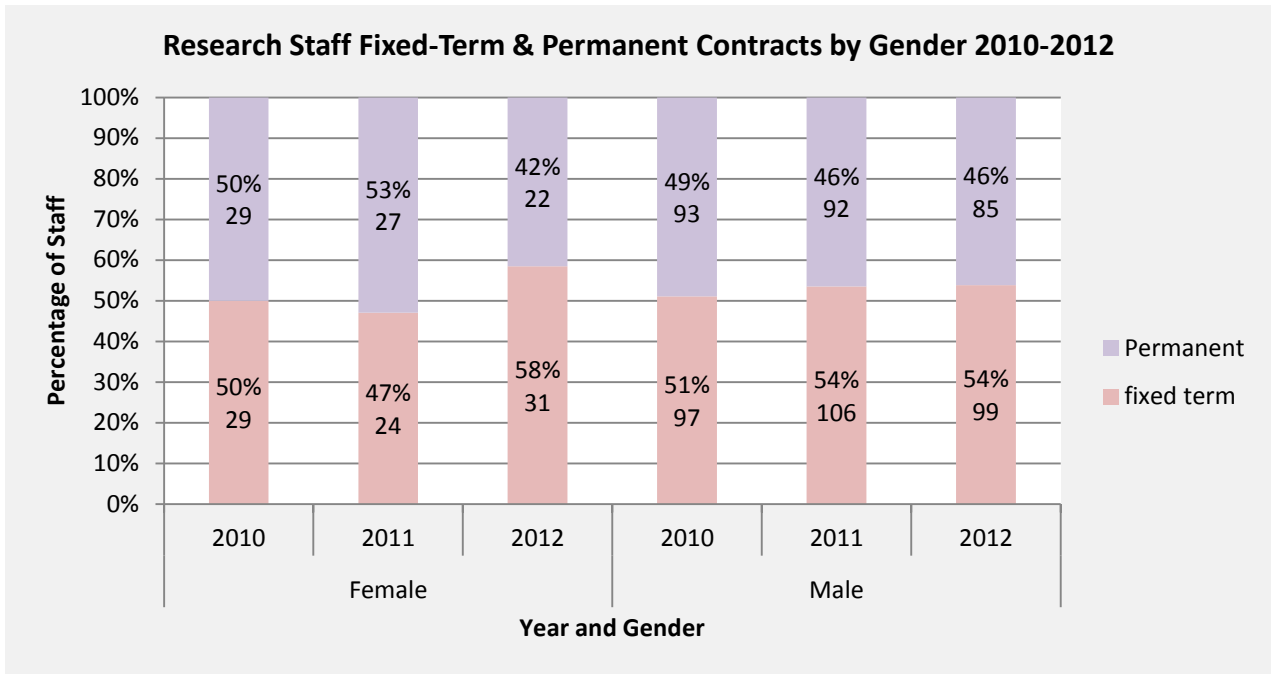


Figure 14. Research Staff on Permanent and Fixed-Term Contracts 2010–2012

The number of Academic Staff on Fixed-Term contracts is very small. Academic posts are normally permanent and are normally only created on a short-term basis when there is a temporary teaching need, for example, when a member of staff is on unpaid leave.

The number of Research Staff on Fixed-Term contracts is higher, primarily because of the nature of research grant funding (see Figure 14).

### 4.3 Organisation and Culture

4.3 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.

4.3 b) (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?

Analysis of Decision-Making Committees by Gender – Department of Engineering				
Committee Name	Chair		Members (Total)	
	M	F	M	F
Academic Committee	0	1	9	2
Faculty Appointments Committee	0	1	5	3
Faculty Senior Promotions Committee	0	1	6	3
Faculty Board	0	1	22	9
Degree Committee	1	0	14	3

Table 8. Current Male and Female Representation on Decision-Making Committees

Members of formal Department Committees are selected in accordance with University-wide policies. The University has clear policies on gender representation. For example, on the Faculty Appointments Committee and the Senior Academic Promotion Committee, there must be a minimum of two female members.

The SAT has reviewed the figures for female representation on the Department’s committees and believes that the gender balance achieved, given the number of female staff, is good. The SAT aims to maintain this position. As a consequence of reviewing the data, the SAT has initiated discussion with the Head of Department concerning the workload on staff who make a significant contribution to committees. The Head of Department plans to take forward an initiative where general contribution to the Department in committee membership will be taken into account when teaching loads are allocated. This will hopefully help to address the issues of overloading the small number of female staff available to serve (See 4.3 b) (ii) *Workload Model*). This initiative is consistent with the criteria staff are required to meet to complete a satisfactory probation period and to be promoted to a higher grade, where progress in research, teaching and general contributions are all important. **[ACTION 6: MANAGEMENT & REPRESENTATION]**

### **4.3 Organisation and Culture**

**4.3 b) (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.

The Department has a system for the allocation of teaching load. All teaching and administrative duties are mapped to the department’s teaching database and a points scheme is used to allow loads to be balanced equitably across all teaching staff: The points system has been operating for over twenty years.

Adjustments are made to the workload of staff returning after a career break due to maternity leave or other family commitments to enable them to reduce temporarily their teaching and administrative loads in order to concentrate on their research. This is in addition to the University-wide policy on flexible working, sabbatical leave, and maternity leave, including graduated return from maternity.

Staff workloads are reviewed annually via the Teaching Office to ensure fair distribution of work and to reflect staff aspirations for promotion. Activities such as outreach and work on women in science and engineering are taken into account by the Deputy Head of Department (Teaching) when allocating duties, but a satisfactory way to incorporate these formally into the points scheme has yet to be found (See also 4.3 b) (i) Representation on Decision Making Committees). **[ACTION 6: MANAGEMENT & REPRESENTATION]**

**4.3 b) (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.

The Department has a flexi-time scheme for Support Staff which allows them to start any time between 8.00 am and 9.30 am and finish between 4.30 pm and 6.00 pm. These working hours do not apply to other groups of staff but the peak of departmental activity is between 9.00am and 5.00pm. The working day is very much driven by teaching activities with lectures in both the morning and afternoon. Key Departmental meetings and divisional meetings take place in the normal working day. Social gatherings mostly take place in the working day.

**4.3 b) (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.

The size and the two-site location mean that encouraging the full integration of the staff and students can be a challenge. The Head of Department hosts events for all staff to encourage an open and friendly feel to the Department. The Department canteen and common rooms are a focal point for interactions of all groups of staff.

The environment in the Department with the current gender imbalance in student and staff numbers means that additional efforts have to be made to ensure that female members of the Department feel fully engaged. A ‘Champion’ will be appointed in each of the six Academic Divisions as a resource for women staff to access safe support outside their immediate working groups and to enable any issues to be raised anonymously with senior management. **[ACTION 1 AWARENESS]**

Two female members of the SAT have over twenty-five years experience of working in the construction industry, a predominantly male environment which is quite challenging for female professionals to navigate. One comments that “The overwhelming feeling was one of isolation and not fitting in and, strangely, of being invisible and irrelevant. As with the Engineering Department, it is often the large numbers that are to blame as much as the proportions and the fact that men are physically larger and louder than women exacerbate the feeling”. Another comments that “[her] experience in the Department is better than industry and the culture overall is more inclusive”. This is one positive view, but others have commented on the need for a more positive and supportive environment which brings women together with support, forums, community, sharing and events which should lead to a more inclusive environment. Another member of the SAT, who had moved from a small-size department elsewhere in the University, with a high proportion of female undergraduates and staff members, had found integrating into the Department more difficult. Previously her environment had been a welcoming one for all female academics, regardless of level, and in Engineering she had found the environment to be less “friendly”. She attributes this to the fact that male staff members and technicians were not used to female academics and also to the size of the department which made it quite difficult to get to know staff. She also commented that “getting involved in the Athena SWAN has been an excellent experience for me and I am confident that if I had a similar experience at the beginning of my appointment, it would have greatly facilitated my integration into the department.”

In committing to the Athena SWAN principles, the Department aims to create a positive environment in which all staff and students can develop and is aware that this may well be more difficult for female staff and students. Three key areas that the SAT are working to address are:

- 1) The need to establish a positive and supportive environment which brings women together for support.
- 2) The need to challenge male perceptions and assumptions of women and a need for more positive interactions between men and women. **[ACTION 2: CULTURE]**
- 3) Feedback through mentoring and a more proactive approach to appraisals in particular. **[ACTION 5: PPD]**

The aim of the Women in Engineering Forum, the logo and the website is to provide the basis and focus for training, coaching, mentoring and networking opportunities for women in the Department (See 2. b) ).

One of the SAT members asked female students (seven third years and seven first years) from one of the women’s Colleges about their experience of being an engineering student, as part of an end of term general discussion. The responses were varied, but a few specific issues were raised including the lack of female Lecturers, Supervisors and Demonstrators (and the positive and inspiring impact that the few female Lecturers that there were had on female Undergraduates), the different treatment of females by some Laboratory Demonstrators (postgraduate students), and a general feeling from some students of being intimidated by ‘all these guys’. A survey of the experiences of undergraduates will be undertaken and any actions taken forward by the Teaching Office and, where appropriate, in consultation with the SAT. **[ACTION 2: CULTURE]**

### **4.3 Organisation and Culture**

**4.3 b) (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.

The Department makes considerable efforts in respect of outreach activities. The data for undergraduate entry to engineering provides evidence that, although the Department's proportion of women is above the national average, there is still a significant imbalance at this level which clearly will have an effect on the number of women following research or academic careers eventually. The SAT attaches a high priority to addressing this issue. The current main areas of activity are as follows:

- **Departmental Outreach Officer**

The Department places high importance on outreach so it employs a full-time Outreach Officer (currently Mrs Maria Kettle). Her role is to co-ordinate and facilitate outreach activities to schools and family groups. There are two main aims of the outreach activities which start at age 7. For young children and their families the emphasis is on enthusing them about design and engineering. The Outreach Officer trains staff and students, completes the paperwork for CRB checks so that they can work with children, and provides resources for design and build activities such as bridge building, solar cars or rocket building activities. For older pupils, the aim is to convey enthusiasm for the value of higher education and Cambridge and Engineering in particular.

In the academic year 2011/2012, 96 Engineering Students, Staff and Alumni donated over 1000 hours to outreach activities, facilitated by the Outreach Officer. 754 primary school pupils and teachers took part in a Department organized activity, and 257 Secondary School pupils and a total of 187 Secondary Schools participated in national organized events such as the Engineering Education Scheme.

A log is kept of outreach organised or facilitated by the Outreach Officer. The SAT has identified this as an area where the Department's commitment to the Athena SWAN principles could be beneficially employed. The Outreach Officer will start to add gender data to the log of activities to ensure that both the staff and students running the activity represent a balanced mix and that the activity itself is reaching an audience of both genders. **[ACTION 1: AWARENESS]**

- **Activities by Student Societies**

The Department has a number of student based activities which lead to involvement in outreach activities such as the Eco-racing Project, Formula Student, Teddies in Space, Ecohouse etc. This is often a requirement of the sponsorship received for these projects. For example, the Eco-racing Project were asked by the Science Museum to exhibit their solar-powered vehicle at their three day festival celebrating women in science and engineering. Five of the seventeen female students involved in this project 'manned' this exhibit<sup>9</sup>. The SAT again believes that these societies should ensure that 'Women in Engineering' publicity is distributed and that the students taking part represent a balanced mix and that the activity itself is reaching both genders. **[ACTION 1: AWARENESS]**

- Staff and Students

The SAT is aware that a significant number of staff and students are involved in a wide range of outreach activities that are arranged directly with schools, through professional institutions or regional groups, or through the Cambridge Colleges. While there is no wish to control these, the SAT believes it provides an important platform by which to promote women in engineering. The initial steps that have been taken include the production of a leaflet to distribute at outreach activities (see Figure 15 below). **[ACTION 1: AWARENESS]**



Figure 15. Outreach Leaflet Mock-up

- High Profile activities

An ongoing action of the SAT is to capture information that highlight women engineers from the Department's news feeds and promote them on the 'Women in Engineering' website. Links to national videos of women engineers will also be included. There are many excellent female role models in the Department and female success stories are published within the department and beyond (see Figure 16 below). **[ACTION 1: AWARENESS].**

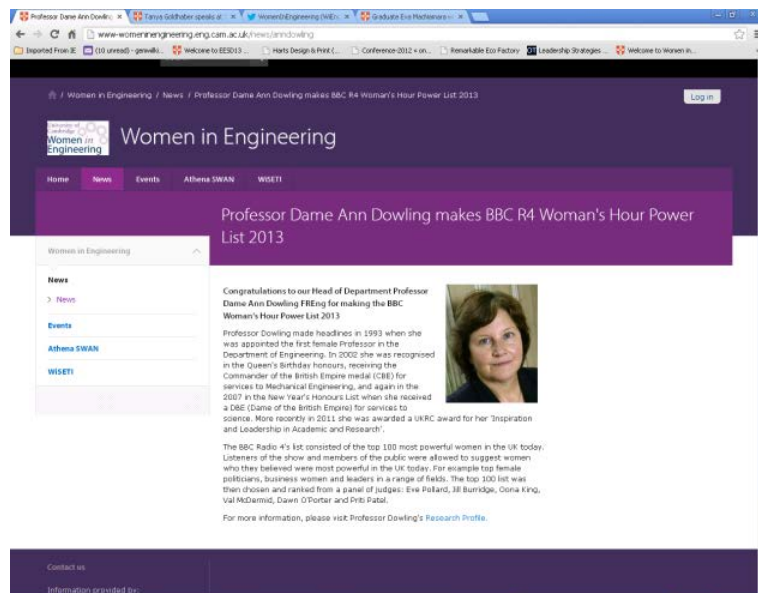


Figure 16. Success stories are published on the Women in Engineering website

<sup>9</sup> <http://www.cuer.co.uk/blog/outreach/2013/03/31/night-at-the-museum/>



#### **4.4 Flexibility and managing career breaks**

**4.4 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.

**4.4 a) (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.

<b>Maternity Leave</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Academic	0	1	1
Researcher	2	3	2

*Table 9. Maternity Leave Data for the Calendar Years 2010–2012*

The University's maternity leave policy allows for the following <sup>10</sup>:

- 18 weeks paid leave during which they will receive their normal rate of pay.
- 21 weeks during which they will receive Statutory Maternity Pay (if entitled).
- 13 weeks unpaid leave.

This is above the minimum legal requirements. Other University-wide maternity policies include a Graduated Return Policy which allows the staff member to return at 20 % initially and gradually rise back to 100 % over 12 months <sup>11</sup>. The University operates Keeping in Touch (KIT) days which can be arranged with the Head of Department. Up to 10 days paid work can be carried out whilst the staff member is on maternity leave.

The number of Academic Staff who took maternity leave in the period 2010-2012 was very small, (See Table 9.), and the one person concerned returned to work. This staff member was on probation at the time but her period of probation was expanded to allow her time to reach the required standard. For Research Staff who went on maternity leave in the years 2010–2012, all returned except two research staff in 2009 (one resignation and one end of Fixed-Term Contract). In all cases the staff concerned returned to work full-time except for two Research Staff in 2009 who returned to less than full-time hours.

The Department does not have a transparent policy on who pays for maternity leave for Research Staff and this can be problematic for staff on externally funded, fixed-term projects with clear deliverables.

The data for this section is not conclusive and the SAT will review this aspect in due course  
**[ACTION 3: MONITOR & REVIEW DATA]**

<sup>10</sup> <http://www.admin.cam.ac.uk/offices/hr/policy/maternity/policy.html>

<sup>11</sup> <http://www.admin.cam.ac.uk/offices/hr/policy/leave/return.html>

#### **4.4 Flexibility and Managing Career Breaks**

**4.4 a) (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.

<b>Paternity Leave</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Academic	1	1	2
Researcher	0	5	7
<b>Unpaid leave – Parental Leave</b>			
Researcher (female)	1	2	2

*Table 10. Paternity Leave and Unpaid Parental Leave Uptake by Calendar Year to end 2012*

The Paternity Leave Policy is a University-wide policy and the number of Academic and Research Staff taking paternity leave has risen since 2010.

Changes to paternity leave policies will be widely disseminated across the Department.

**4.4 a) (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.

The University has a Flexible Working Policy <sup>12</sup> which has recently be extended to include flexible retirement. The number of Academic Staff who have made applications under this scheme has been very small to date.

<sup>12</sup> <http://www.admin.cam.ac.uk/offices/hr/policy/flexible/>

**4.4 Flexibility and Managing Career Breaks**

**4.4 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.

**4.4 b) (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.

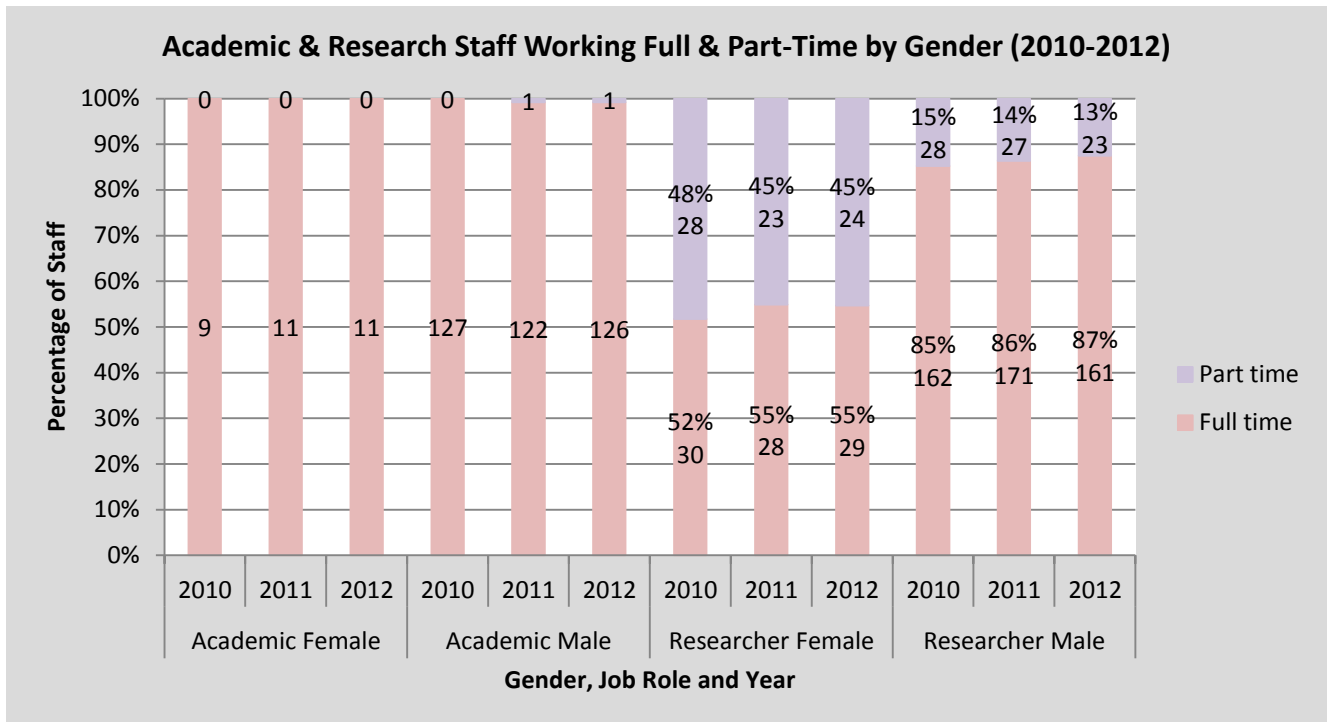


Figure 17. Full and Part-Time Working by Gender in Academic and Research Staff 2010–2012

The Flexible Working Policy sets out the procedure to be followed when staff ask to work to achieve a better work/life balance. The most common reasons for formal requests are: To fit in with a dependant’s care arrangements (including provision under the Flexible Working Policy), preparing for retirement; coping with a disability; combining part-time University employment with other professionally-related work (if of benefit to all concerned). The data above (Figure 17) shows that for Academic staff, the numbers are not significant as there has only been one application (in relation to retirement) for flexible working over the past three years and this was approved.

Informal flexible working arrangements are common, particularly for Academic Staff.

**4.4 b) (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 offers support to those Academic and Research Staff going on, or returning from, a period of caring (this may include but is not restricted to: maternity leave, adoption leave, or leave to care for a dependent). The University piloted a Returning Carers Scheme in 2012 which offers funds to assist returning carers in building up their research profiles and other academic activity after a period away from work. Examples of support provided include (but are not limited to), training to support career development, domestic costs of additional childcare while parent is away and costs of family member or nanny to accompany new mothers to conferences.

The criteria state that funding of up to £10,000 is available to male and female staff that took a break of more than three months in the last four years.

Dr Abir Al-Tabbaa, (SAT Member), applied to this scheme and was able to obtain additional funding even though she took her career break over five years ago. Each case is considered on an individual basis showing the flexibility of the Department and a willingness to support female members of staff, over and above standard policies and procedures. To date there have been five people from the Department who have applied and all have been successful.

The HR office alerted all eligible Academic and Research staff to this scheme in September 2012 via e-mail but needs to raise the profile of this scheme further to increase uptake. **[UNIVERSITY ACTION: 8]**

Covering work during absence is not a problem in a large department; teaching duties are reassigned and supervision of Research Staff and contracts may be delegated to a colleague if the academic wishes.

The Department has been flexible in the expectations of staff after they return from maternity leave. In addition to the University Flexible Working Scheme, many academics choose to take a period of research (sabbatical) leave.

**5. Any other comments: maximum 500 words (0/500 words)**

*Please comment here on any other elements which are relevant to the application, e.g. other SET-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.*

No additional comment.

## 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 spread sheet 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**.

**The Action Plan does not need to cover all areas at Bronze; however the expectation is that the department will have the organisational structure to move forward, including collecting the necessary data.**

The Action Plan addresses issues concerned with the following:

1. Awareness (of gender equality issues and initiatives)
2. Culture
3. Monitor/Review Data
4. Recruitment Practices and Procedures
5. Personal and Professional Development (PPD)
6. Management and Representation

Objective	Actions to date	Action(s) Required	Responsibility	Specific Measurable	Timeline
<b>1. To raise awareness of gender equality issues and initiatives within and beyond the Department</b>					
<p><b>COMMITMENT:</b> To change business practices with respect to data collection and gender representation to ensure reporting by gender can be effectively monitored</p>	Athena SWAN Self-Assessment Team (SAT) established as a standing committee within the Department.	SAT to take forward initiatives and report regularly to the Academic Committee (the Senior Management Committee), the Faculty Board, Teaching Committee and Directors of Studies	The SAT.	Annual Reports on students and staff by gender. Progress against Action Plan monitored and Action Plan developed in the light of the review and business procedures changed as required.	Termly meetings from April 2013 Annual Reports September 2013-2016.
		To change departmental and divisional business practices to put in place the capture and regular on-going collection of all gender data required for Annual Review.  The introduction of exit questionnaires to understand reasons for leaving as well as career destinations.	The SAT.	Procedures in place for data collection and review leading to a greater understanding of gender issues across the Department.	By end 2013 and continued development from 2014 until 2016.  Exit questionnaires introduced by end of 2015.
	Gender balance on departmental committees reviewed and addressed.	Ensure appropriate gender balance on all departmental committees as well as transparent promotion of opportunities and committee rotation via formal term lengths where allowed by University Statutes (see also Action 6 below) to ensure that key decisions are gender neutral.	Head of Department, Academic Committee and Faculty Board.	More women gaining committee and management experience within the Department and monitoring of potential committee overload for women. Gender balance data will be taken into account during each rotation.	Member appointments are made for two years in the Autumn of each year (from Autumn 2013).
<p><b>ENGAGEMENT via DEPARTMENT INITIATIVES:</b> To help change the culture in the Department and to raise awareness of the Women in Engineering initiative</p>	Women in Engineering website developed  Women in Engineering logo designed to raise awareness and provide a clear brand for all related initiatives	Women in Engineering website to be updated to include: news of awards and prizes, staff meetings, career success stories of women in the Department, as well as support available to Women including the Returning Carers' Scheme, maternity leave, flexible working policy etc.	The SAT and the departmental HR Office	Up-to-date website which is the source/focus for 'Women in Engineering' initiatives and information.  Number of hits on the website using Google Analytics reported annually to ensure website is reaching target audience.	Initial development completed by end 2013.  Regular updates added on an ongoing basis 2014-2016

Objective	Actions to date	Action(s) Required	Responsibility	Specific Measurable	Timeline
	Professor K. Glover appointed as the Department's first Athena SWAN Champion (until December 2013.)	Appoint an Athena SWAN Champion for each Academic Division.  Professor Dame Ann Dowling (current Head of Department) to become Athena SWAN Departmental Champion from 1 January 2014.	The Head of Department and the Heads of Division	Appointment of 6 Divisional Champions who are committed to actively progressing gender equality in academic divisions	Appointments made in Summer 2013 and Divisional Champions to be invited to be members of SAT from October 2013  Appointment of Divisional Champions every two years starting 2013 to 2016.
<b>OUTREACH:</b> To increase awareness of Engineering to female students	Promotional material developed to highlight the department's commitment to Athena SWAN and the Women in Engineering initiative.	Promotional material available for use by all staff and students participating in Outreach activities	Outreach Officer and Teaching Office, reviewed by SAT.	Increased awareness of Engineering as a career for women. Target open days.  Source other opportunities including funding for female outreach events.	Annually from June 2013. Target open days from June 2013.  July 2013-2016
	Gender data on undergraduate applications and admissions collated and identified as a key issue for the Department.	Applications and admissions data available for review by Engineering Directors of Studies annually.	SAT (data supplied by University student statistics)	Increased applications from female students from current level of 19% (above the national average).	From October 2014  By October 2016
		Encourage more staff and student involvement in outreach activities who can promote engineering, particularly to female students.	Outreach Officer, Divisional Champions, SAT	Aim for application rate of women to remain consistently above national average.	



Objective	Actions to date	Action(s) Required	Responsibility	Specific Measurable	Timeline
<b>2. To create a supportive culture</b>					
<b>CULTURE:</b> To encourage a positive and open environment	Staff surveys have been undertaken in a number of University Departments.	Undertake a survey of all staff and graduate students on working in the department, which will address gender and cultural issues.  Results analysed by gender and specific issues identified. Results and outcomes to be shared with staff.  Action Plan to address survey issues developed by SAT. These actions will define on-going actions for the SAT.	The Head of Department in consultation with the Academic Committee.	Staff Survey completed  Results analysed. Issues identified and results communicated to staff.  Action Plan developed.	By end 2014.  By March 2015.  By April 2015.  By June 2015.
	The Head of Department hosts two induction events per year to which all new staff are invited  Annual staff "get together" providing an update on the Department's activities followed by an informal drinks party  Events for retired members of the Department and also for special occasions and celebrations	Continue new employee induction events  Continue annual staff get together  Run further events, such as a summer garden party for families	The Head of Department and HR Office  The Secretary of Department (HR)  The Secretary of Department (HR)	Positive feedback from staff survey (in 2015) and Women in Engineering events about the culture of the Department.	Bi-annual induction events 2013-2016.  Annual get together 2013-2016.  Ongoing events 2013-2016.
	Women in Engineering Forum introduced to provide a network for discussion, training and networking for female staff and students across the department. This is a key initiative for the Department in supporting women at all career stages.	Develop a programme of termly meetings to engage more women across the Department, encourage networking and identify issues	Women in Engineering Forum Chair and the SAT	A successful, engaging and active networking forum for women across the Department to share experiences and highlight/discuss issues and concerns. At least 9 events over the next 3 years. Calendar of events on Women in Engineering website.	Termly events from October 2013.
	Divisions have their own welcome parties, Christmas lunches, graduate student away days etc	On-going divisional events	Heads of Divisions, and Divisional Champions.	Open and positive culture promoted within each Academic division.	Annual divisional programmes 2013-2016.

Objective	Actions to date	Action(s) Required	Responsibility	Specific Measurable	Timeline
<b>3. To Regularly Monitor &amp; Review Data by Gender</b>					
<b>STAFF APPOINTMENTS:</b> To work towards addressing gender imbalance in applications and appointments	Data on academic and research staff appointments collected and reviewed.	Continue to collect and analyse data including: subject area of the post; gender of applicants and selection panel members and anonymised Equal Opportunity information	Data produced by the HR and Research Offices. Reviewed by the SAT	Data reviewed annually by the SAT. Actions identified and agreed by the Head of Department and the Academic Committee.	Annually (July) 2013-2016
		All staff involved in recruitment will be required to have completed the University's online E&D training	Head of Department, University E&D Section (data).	Staff with better awareness of E&D issues, and adherence to best practice, particularly around recruitment.	Completion of E&D training by staff by September 2014.
<b>STAFF DEVELOPMENT:</b> To support professional development of staff	Probation outcomes and promotion rates by gender of all Academic and Research staff monitored.	Continue to monitor. An annual report will be produced for the Academic Committee. Identification of areas of concern, particularly any gender differences, and appropriate actions developed if required.	Data will be produced by the Secretary of Department (HR) and the Research Office	Probation completion recorded for all Academic and Research staff.  Increase in promotion application and success rates for women.	Annual review 2013-2016  Annual review in July 2013-2016
<b>STUDENT APPLICATIONS/ ADMISSIONS:</b> To improve gender balance for applications and admissions	Data produced by the Graduate and Teaching Offices and the Institute of Continuing Education as appropriate. Data analysed by the SAT.	Data monitoring overseen by the Graduate and Teaching Offices. The Academic Committee, the Faculty Board and the Teaching Committee will receive an annual report. Any emerging trends will be identified and actions implemented.	Graduate and Teaching Offices.	Increase in applications and admissions from women for undergraduate and postgraduate courses. (see also Outreach Action Point 1 above).	Annually (November) 2013-2016.
	Identified that the number of female students undertaking Postgraduate Taught Degrees is higher than Postgraduate Research Degrees.	Canvass current student opinion and set up a focus group.	The SAT.	Identify the reasons behind gender preference in Graduate Student degree route.	Academic year 2014/2015.
<b>STUDENT ATTAINMENT:</b>	Study undertaken by the Director of Undergraduate Education. Implementation of a number of actions to address, where present, the discrepancies in degree attainment between genders.	Continue to review the data and monitor the impact of changes and participate in the University-wide review of degree attainment.	Deputy Head of Department, Teaching and the Teaching Committee.	Establish focus groups with MET and Engineering students to establish reasons behind difference and identify initiatives to address the barriers to degree attainment.	Complete review Autumn 2014.  Implementation of changes Autumn 2015.

Objective	Actions to date	Action(s) Required	Responsibility	Specific Measurable	Timeline
<b>4. To Eliminate any Potential Gender Bias in Recruitment Practices &amp; Procedures</b>					
<b>PROCEDURE CHANGES:</b> To improve and exchange good recruitment practices across the Department	The Academic Committee developed a working draft of procedures for Search Committees for academic posts in the light of the data on staff appointment and the implementation of the procedures	Review working draft and ensure complementarity with the new University Guidelines for Professorial Boards of Electors.  Implementation of new procedures  Research Office to develop and implement generic selection criteria and facilitate good practice in research appointments.	The Head of Department, in consultation with the Academic Committee and the Secretary of Department (Admin & HR).  HR and the Research Office.	Procedures in place for transparent recruitment and wide search criteria to improve the number of women applying for academic posts	Procedure approved by end 2013 and implemented in 2014  Summer 2013 and continued development until 2015.
		Inclusion of family friendly policies for example, the University's Maternity Leave arrangements, flexible working policies and the commitment to Athena SWAN in the further details for all Departmental posts.	Secretary of Department for academic posts and the Research Office divisional administrators for research posts	Increased applications from women particularly for academic and research posts.	2013 until 2016

Objective	Actions to date	Action(s) Required	Responsibility	Specific Measurable	Timeline
<b>5. To Promote Personal &amp; Professional Development (PPD) Opportunities</b>					
<b>STUDENTS</b>	One-to-one support for skills analysis sessions for research students.	To identify additional funding to support an increase in one-to-one skills sessions	The Research Development Coordinator and the SAT.	More opportunities for researchers to discuss personal and professional development	Funding identified by mid-2014. Number of opportunities increased by end 2014 and monitored by gender.
	Funding obtained to allow some students to attend the WES Conference.	To continue to fund students' participation in Women's Engineering Society (WES) Events.	The Head of Department.	Students participate in WES events each year.	November 2013 - 2016
<b>ACADEMIC AND/OR RESEARCH STAFF:</b> Development of schemes to support key career transition points and career development.	Promote the University's Senior Academic Promotions (SAP) CV scheme and new SAP Open Fora. Candidates in the current (2013) application round were all informed of the scheme well in advance of the promotions deadline and attendance at Open Fora encouraged	Ensure the Secretary of Department, Head of Department and Professorial staff promote the SAP CV Scheme and Open Fora to all potential promotion candidates, particularly women.	The Head of Department and the Secretary of Department (HR)	All promotions candidates are aware of the SAP CV scheme and attend Open Fora.  Increase in promotions success, particularly for women to address key attrition rate in the department above Senior Lecturer	CV Scheme June-Sept. annually  Open Fora May-July annually
	Existing mentoring scheme.	Monitor uptake of the Mentoring scheme and develop the scheme to respond needs/requirements. Feedback form to be agreed with the Head of Department and any changes to current arrangements introduced.  Training for Mentors to be introduced.	Secretary of Department (HR) and Departmental mentors	Effective and well-received mentoring scheme, with uptake monitored by gender	Development May to September 2013  New Scheme introduced October 2013
	Maternity, paternity and family leave data recorded and analysed.	Continued monitoring of all family leave data. Annual review and report produced.  Widely publicise additional paternity leave options to staff.  Review the source of maternity leave payments for Research Staff.	Data will be collected from central HR and reviewed by the Academic Committee.  Research Office.	Continuation of high maternity return rate.	2013-2016

Objective	Actions to date	Action(s) Required	Responsibility	Specific Measurable	Timeline
	Participation of staff in Returning Carers' scheme pilot.	Ensure promotion of Returning Carers' Scheme to all staff on returning from a period of extended leave (including maternity leave). Staff participation in evaluation process.	Secretary of Department and HR.	Women supported to get their research careers back on track after care leave	University wide Returning Carers' Scheme launched in August 2013. Bi-annual application dates. Ongoing evaluation of impact 2013-2016.
	Emerging Leaders Programme piloted in the Department in 2012/13.	Feedback from the Emerging Leaders Programme to be considered by the SAT for review and action if necessary. Programme to be offered at a University-wide level. Female research staff specifically encouraged to attend.	The SAT The Personal and Professional Development team.	Participation of research staff in leadership development programme.	From 2014.

Objective	Actions to date	Action(s) Required	Responsibility	Specific Measurable	Timeline
<b>6. Review of Management and Representation by Gender</b>					
<b>REPRESENTATION</b> To maintain a good gender balance on all Departmental Committees	Produce data on the gender balance of committee membership for the Academic Committee on an annual basis.	Data to be in consultation with the Secretary of the Faculty Board and reported to the Academic Committee once a year at their away day. Data to be reviewed with actions identified and progressed (see also Action 1 above).	Secretary of Department (HR), Faculty Board, Head of Department.	Women Academics across a range of career stages given the opportunity to gain committee experience.	Annual review 2013-2016.
		All committee members to complete online E&D training.	The Head of Department.	Committee members with greater awareness of E&D issues. See ACTION 3 above.	100% completion by mid-2014.
<b>GENERAL CONTRIBUTION TO WORKLOAD:</b> To ensure an even distribution of duties for all academic staff	The number of female staff in the Department is fairly small so in order to obtain a good representation on Departmental Committees the workload can be quite heavy. This sort of General Contribution is a criterion both in probation and promotion. The Head of Department has initiated discussions with the Deputy Head of Department (Teaching) to review workload allocation.	Teaching workload allocation scheme reviewed. Workload reviewed for all Academic staff, particularly with consideration for committee overload for female staff. Relevant adjustments introduced where required. Annual review of workload introduced. (see also Action point 1 and Representation action above).	Head of Department.	Academic workload reviewed annually and female staff not disadvantaged with respect to teaching, administration and committee responsibilities.	Workload reviewed for all Academic staff in Spring 2014. Annual review from October 2014.

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