Athena SWAN Silver award application

Name of institution	University of Sheffield	
Department	Chemical and Biological Engineering	
Focus of department	**STEMM**	
Date of application	30/11/2016	
Award Level	**Silver**	
Institution Athena SWAN award	**Date: November 2015**	**Level: Silver**
Contact for application Must be based in the department	**Dr Annette Taylor**	
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Departmental website	https://www.sheffield.ac.uk/cbe	

Silver department awards recognise that the department has taken action in response to previously identified challenges and can demonstrate the impact of the actions implemented.

This is the public version of the document where sensitive information regarding some members of staff has been removed.

1. LETTER OF ENDORSEMENT FROM THE HEAD OF DEPARTMENT

The University Of Sheffield.

Department Of Chemical & Biological Engineering.

Ms Sarah Dickinson Hyams

Head of Equality Charter

Equality Challenge Unit

Queen's House

29th November 2016

Dear Ms Dickinson

Professor Jim Litster

Head of Department

Department of Chemical and Biological Engineering

Telephone: +44 (0)114 222 7592

Email: james.litster@sheffield.ac.uk

Our Reference: JDL/GHR

Athena SWAN

Throughout my career I have been passionate about creating a positive, inclusive work culture. Therefore I am delighted to add my strong support to and endorse this application for an Athena SWAN Silver Award under the post-May 2015 criteria.

I joined The University of Sheffield in January 2016 and became Head of Department in April 2016; this following a long academic career at the University of Queensland, Australia (20 years including 7 years in administrative leadership) and Purdue University, USA (8.5 years) during which I prioritized creating an environment where everyone is valued for their diverse backgrounds and contributions. At UQ, I mentored many female staff including Prof Caroline Crosthwaite, the first female Chemical Engineering professor at UQ. Four of my female PhD students have gone onto successful academic careers including Prof Karen Hapgood, recently appointed as Dean of Engineering at Deakin University in Australia, and Dr Rachel Smith, one of our case study subjects in this submission.

I am delighted that our Department at Sheffield has maintained its position as one of the leading educators of female chemical engineers in the country with well above the national average proportion of female students in both our undergraduate and postgraduate taught programmes. This has been achieved against a backdrop of dramatically increasing student numbers in the last five years. It is particularly pleasing to see we have substantially increased our number of female postgraduate research students in the last three years, both as a percentage of the cohort and in absolute numbers.

This success has been strongly related to our previous Athena SWAN action plan including care with gender balance and training during recruiting, and the presence of a number of strong female role models, particularly the leadership of Dr Rachael Rothman, our first Athena SWAN champion and Prof Catherine Biggs. I am delighted the Rachael has gone on to a Faculty leadership role as Faculty Director of Women in Engineering.

The Department is not without its challenges, however. There have been many changes in
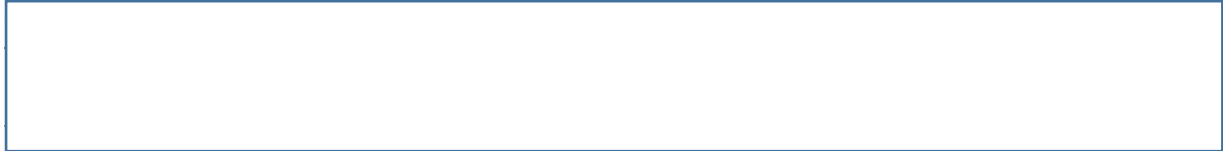
morale. In response, I have tried to create an open, listening culture and met with as many individuals and groups in the Department as I can to hear their concerns and capture their vision to the future. Three excellent mid-career academics have been given leadership roles on the Department Executive team including Dr Rachel Smith (Director of Student Support) and Dr Annette Taylor (Opportunities Committee Chair).

By including the Opportunities Committee Chair on the Executive, I intend to ensure that Athena SWAN and related activities are central to our strategic decisions. I have also included the Opportunities Committee activities as a standing item at staff meetings to increase its visibility in the Department.

Our new Athena SWAN action plan will focus particularly on actively encouraging talented female candidates to apply for PDRA and academic positions and promoting academic career opportunities in our undergraduate and postgraduate training programme. We will also ensure the continued success of all our female staff through ensuring a fair and transparent distribution of workload.

Despite the challenges, I am very proud of the performance of the Department in supporting female staff and students. The Athena SWAN assessment process and action plan described here give us an excellent basis for the future to achieve our goal of having CBE at Sheffield to be the Department of choice for women to study and work.

I confirm the information presented here is an honest and true representation of the Department.

Yours sincerely,

Prof Jim Litster

Head of Department

Word Count of Section 1: 644

LIST OF ABBREVIATIONS

CBE	Chemical and Biological Engineering
HoD	Head of Department
DAA	Department Academic Advisor
DAM	Department Administration Manager
DTM	Department Technical Manager
GES	Gender Equality Survey
L	Lecturer
OC	Opportunities Committee
P&E	Professor and Emeritus Professor
PaS	Professional and Support
PDRA	Postgraduate Research Associate
PGR	Postgraduate Research
PGT	Postgraduate Taught
R	Reader
SAsT	Self-Assessment Sub Team (see Figure 1)
SL	Senior Lecturer
SRDS	Staff Review and Development Scheme
SUT	Senior University Teacher
UG	Undergraduate
UT	University Teacher
WAM	Workload Allocation Model

2. DESCRIPTION OF THE DEPARTMENT (500 WORDS)

Please provide a brief description of the department including any relevant contextual information. Present data on the total number of academic staff, professional and support staff and students by gender.

Chemical and Biological Engineering (CBE) is part of the Faculty of Engineering at the University of Sheffield (Figure 1).
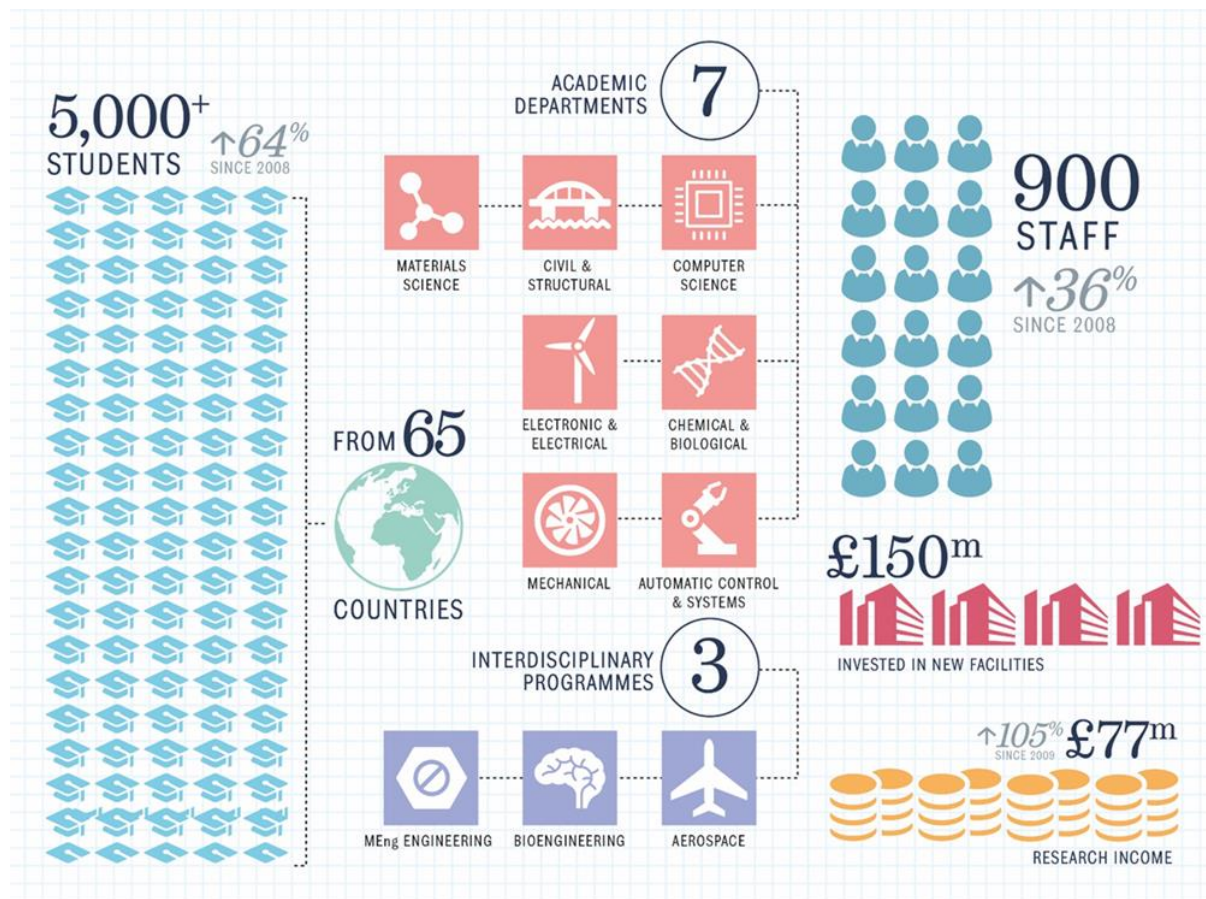

Figure 1. Structure and composition of the Faculty of Engineering at the University of Sheffield.

CBE offers a wide range of undergraduate degrees that were recently accredited by the Institute of Chemical Engineers (IChemE) and the Institute of Energy. There are postgraduate taught courses aimed at both recent graduates and industry. The department is research active and 89% of its activities rated as internationally excellent or world-leading in the 2014 Research Excellence Framework (REF). Our major Athena SWAN achievements are:

- **The total female numbers from Undergraduate (UG) student through to Academic has increased to 292 in 2015:**
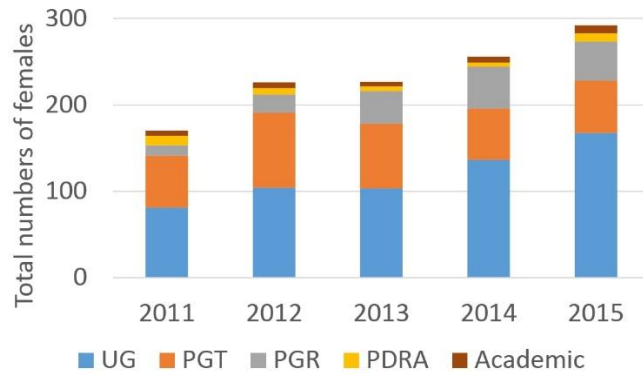
Figure 2: Growth in the numbers of female students and academic and research staff in the department since 2011 (by academic year = 2011/12). UG = undergraduate, PGT = taught postgraduate, PGR = postgraduate, PDRA. = postdoctoral Research Associate

- **We have maintained or improved the %female of total numbers of students with marked increases in %female PGRs since 2011:**
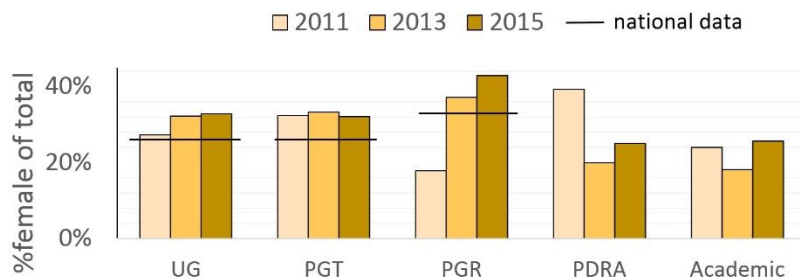

Figure 3: The %female of total numbers in the department at each career stage, by academic year (2011 = 2011/12).

- **We have made four new academic female appointments (1 in 2016/17, not shown)**
- **One of our female Professors (Director of Research) was appointed Head of Department (HoD), our first ever female HoD, in September 2015.**

At October 2016, the department has 1077 staff and students. We are a diverse community from all over the world.

Figure 4: A picture of staff in our department from the website: https://www.sheffield.ac.uk/cbe/staff

There are 117 staff members comprising 37 Academic (Ac) staff; 39 Professional and Support (PaS, 23 Administrative and 16 Technical) and 42 PDRAs. In the 2016/17 cycle, 660 UG students are currently registered in CBE, 186 PGT students and 113 PGR students (Figure 5). Of the administrative staff, four are female research centre/network or project managers. The gender imbalance observed in the admin (mainly female) and technical (mainly male) is typical of the sector but is changing through the introduction of initiatives such as the Apprentice Scheme; **we have recently appointed a new female technical staff member** (not shown).
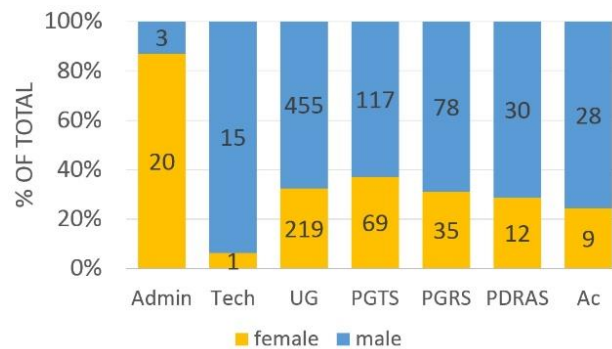

Figure 5: Current composition of the department by gender, with actual numbers in bold, in October 2016.

The majority of staff in CBE are based in the Robert Hadfield building. Three academic staff and one technician are in the Kroto Institute (Sheffield) and two technicians are at the University site at Buxton. Undergraduate teaching moved to the new £81M Diamond building in Sept 2015, and several teaching staff affiliated with the department are permanently based in the Diamond. Some of our Professional and Support Staff are shared across the Faculty.

Challenges

The department has changed significantly in the last five years, with large increases in student numbers, the move of teaching/staff to the Diamond and changes to academic staff.
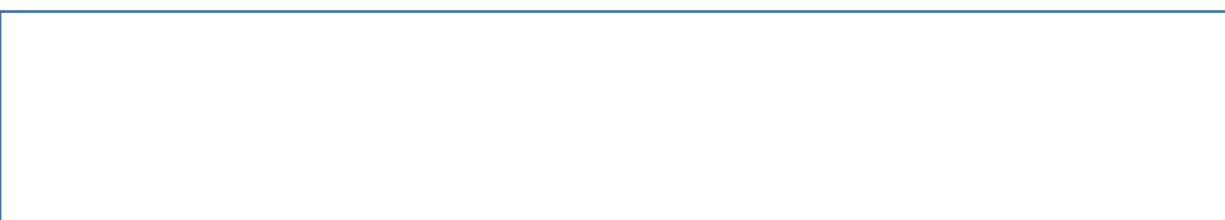
2016. The changes implemented by the new HoD are beginning to make a difference as is evident from some of the responses in the 2016 Gender Equality Survey. Through the Athena Swan process, we have identified some key aims in terms of maintaining/improving our gender balance:

- To increase intake of home, female postgraduate researchers by 50% each year from 2017 **(A2.4, A2.5, A7.7, A7.8)**
- To increase our %female of research staff to 30% by 2020 **(A3.1 – A3.5)**

Our vision is to maintain the current total numbers of staff and students but to increase the %female at particular levels through targeted actions. We will continue to create a coherent

and supportive environment for all staff by improving awareness of policies (**A5.1, A5.2, A6.1, A7.2**) and ensuring that females are achieving their maximum potential through the fair distribution of work (**A4.3, A7.5**).

Word count of Section 2: 578

3. SELF-ASSESSMENT PROCESS (1000 WORDS)

(i)   A description of the self-assessment team

The Opportunities Committee acted as the Self-Assessment Team (SAT) for the Athena Swan application. The Committee reflects the composition of the department in terms of the number of representatives from a particular staff or student group, career stage and work-life balance (Table 1).

Table 1: Members of the self-assessment team, roles and work-life balance

Name (gender)	Committee Role *Department Role*	Career pathway and work-life balance
Dr Annette Taylor (F)	Academic, Chair of OC *Athena Swan Champion*	• Senior Lecturer since 2014 • Formerly at University of Leeds (2001-2014) • Has experience in schools and care of elderly • Enjoys travelling
Dr Sol Brown (M)	Academic Representative	• Lecturer since Dec 2015 • Researcher at UCL (2011-2015) • Married, and have a baby daughter and two fish
Natalie Cardwell (F)	Professional and Support *Departmental Administration Manager Athena Swan Champion*	• DAM since 2013 • Married, two primary school age children • Flexible working pattern to accommodate childcare
Emma Chandler (F)	PhD Representative	• First year PhD student • 5th year of studying in Sheffield • Plays tennis
Prof Mark Dickman (M)	Academic *Director of Recruitment*	• Professor 2016- • Worked in the Dept 13 yrs: Lecturer (2003-2008), Senior Lecturer (2008-2011), Reader (2011-2016) • Married with Children (5 and 9)
Dr Yanna Dimitriou (F)	PDRA	• PDRA with teaching duties since December 2012

		• Country of origin: Greece • Married to full-time lecturer • Expecting first child
Mandy Elrayah (F)	Undergraduate *Inclusions Officer*	• 2nd year • Inclusions Officer on the Chem Eng Committee • Student Associate for Learning and Teaching in the Engineering Faculty
Louise Hall (F)	Professional and support *Undergraduate Admissions and Recruitment and Careers Liaison Officer*	• Worked in the University since graduation in 2011 • Live with partner who also works in the University • One step-daughter
Mr Hakim Che Harun (M)	PhD	• Lecturer at University Malaysia Terengganu • Love backpacking, couch-surfing, countryside, oh Iceland was amazing! • In love with teaching and engineering
Dr Maria Heute-Ortega (F)	PDRA	• PDRA in Algae Biotechnology, 2013- • Visiting RA (UK), PhD University of Vigo (Spain) • Married to a PDRA • Enjoy reading and Kung Fu
Prof Jim Litster (M)	Academic *Head of Department*	• HoD 2016- • Married to an academic veterinarian who commutes to USA - balance career development of both spouses • Three adult children living abroad
Andy Patrick (M)	Professional and Support (Technical)	• Workshop supervisor for CBE • Live with partner and have two children in primary school • Have flexible working pattern to care for children
Dr Rachel Smith (F)	Academic *Director of Student Support*	• Lecturer since 2012, recently promoted to Senior Lecturer • From Australia • Single, lives with a housemate • Enjoys brewing and good food
Karen Wood (F)	Professional and Support *Research Centre Manager*	• 30 years working in science and business.

		• Background in NHS, industry, HE and charity organisations. • Married with two teenagers.

The Self-Assessment sub-Team (SAsT) -the OC Chair, HoD and DAM - monitor membership of the OC. Some of the members expressed an interest in joining the committee and others were nominated. The OC does represent the diversity of the department in terms of career pathways and work-life balance with reflection we feel that a male voice from the PDRAs would be beneficial (**A1.1c**). Two of the committee work flexibly and five are not originally from the UK. **Since our last submission, we have included an UG representative to gain direct input from students.**

The Chair of the OC in 2013 took up a Faculty role in 2014 and so stood down from OC. A new Chair/Athena SWAN Champion was appointed in 2015. She went on maternity leave in January 2016 and a new Chair took over for a full 3 year term as returners from maternity leave are exempt from admin duties for a full semester. The Chair is allocated 10% time in the department Workload Allocation Model (WAM). **The new HoD ensured that all her other administrative duties were reallocated so that she could focus on this role.** For other staff, their involvement is included in the WAM (**A1.2**).

A1.1	Ensure balanced and diverse membership of OC that gives a voice to everyone in the department	a. Monitor membership of OC and check gender balance as well as range of other factors including ethnicity, experience, mode of working b. Rotate membership after 3 years and recruit new members to positions before previous ones leave to facilitate handover c. Include male PDRA
A1.2	Ensure recognition of contribution to OC	a. Include time commitment of OC in new WAM b. Include time commitment in SRDS form and discuss contribution at SRDS meeting

(ii)   an account of the self-assessment process

Prior to 2012, gender equality activities were uncoordinated (Figure 6). A Self-Assessment Team was introduced and in 2013, it was decided that the SAT should meet more often with a broader remit: the Opportunities Committee (OC) was established to ensure there are equal opportunities for all staff and students to progress in their careers. The OC is responsible for overseeing the submission of an Athena SWAN Application, developing an Action Plan and monitoring its success. The OC reports to the Executive Committee (EC): four of its members are on the EC and in 2016, **the new HoD invited the Chair of the OC to join the Executive Committee as a member**.
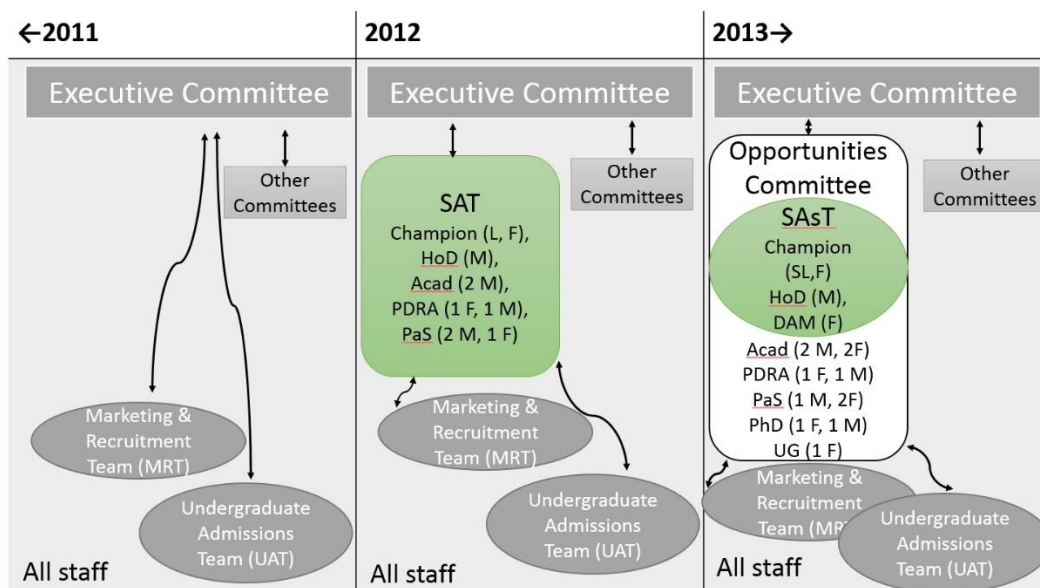
← 2011 | 2012 | 2013 →

Executive Committee | **Executive Committee** | **Executive Committee**

Other Committees

SAT
Champion (L, F),
HoD (M),
Acad (2 M),
PDRA (1 F, 1 M),
PaS (2 M, 1 F)

Other Committees

Opportunities Committee
SAsT
Champion (SL, F)
HoD (M),
DAM (F)
Acad (2 M, 2F)
PDRA (1 F, 1 M)
PaS (1 M, 2F)
PhD (1 F, 1 M)
UG (1 F)

Other Committees

Marketing & Recruitment Team (MRT)

Undergraduate Admissions Team (UAT)

Marketing & Recruitment Team (MRT)

Undergraduate Admissions Team (UAT)

Marketing & Recruitment Team (MR...

Undergraduate Admissions Team (UAT)

All staff | All staff | All staff

Figure 6: Evolution of the Self-Assessment Team (SAT) into the Opportunities Committee and Self-Assessment sub-Team (SAsT).

The OC meets every 3 – 4 months for 90 minutes as a full committee and the minutes of the meetings are documented. At least 3 of those meetings per year are Athena SWAN focussed. The OC also communicate by email and there is a CBE Athena SWAN dropbox. The SAsT met more often, every two – four weeks in the past 12 months.

Surveys: Online surveys took place: the Gender Equality Survey (GES) ran in 2012, 2013, 2014 and 2016. The response rates for 2013 – 2016 are shown in Table 2. Internal email lists were used to invite staff to the take part in the google survey: there is uncertainty in the response rates because of staff leaving and changing roles (**A1.3**). Staff that rotate around the Faculty are not included. The response rate is good in most cases; the response rate by gender is shown in Table 3.

Table 2: Gender Equality Survey response numbers and rates (i.e. %all staff in each category) by year.

	2013	2014	2016
Academic	29 (88%)	23 (70%)	27 (73%)
PDRA	12 (48%)	10 (15%)	20 (47%)
Professional and Support	14 (70%)	22 (85%)	18 (69%)

Table 3. GES response numbers and rates by gender

	2013		2014		2016	
	male	*female*	*male*	*female*	*male*	*female*
Academic + PDRA (%of total by gender)	31 (79%)	10 (82%)	28 (60%)	5 (42%)	35 (60%)	12 (57%)
Professional and support	7	7	10	12	7	11

The response rate improved in 2016, with the encouragement and support of the new HoD in matters related to gender equality, however numbers in 2016 are lower than 2013. Some people commented that the GES was geared towards academic staff, so new surveys were introduced 2016 to target the PGRs and PDRAs specifically. The reps encouraged their colleagues to take part: **this led to better response rates (Table 4).**

Table 4. Comparison of old survey with new survey response rates: PGR and PDRA

	2014 (all staff survey)			2016 (focussed survey)		
	All	*male*	*female*	*All*	*male*	*female*
PGR	24 (31%)	11	13	55 (49%)	33	22
PDRA	10 (33%)	9	1	25 (60%)	14	11

Department consultation and focus groups: With the expansion of the Athena SWAN Charter to include Professional and Support Staff, the OC Chair sat in on one of the technical staff SRDS[1] meetings and also met individually with other PaS members of the committee. Several focus groups were held with female first year students, one in 2013 (25 attended) and one in 2014 (fifteen attended). Focus groups were also held with female 2-4th years (15 attended) in 2013. A focus group was held with PGRs in 2013 (6 attended) and with female PDRAs in 2015 (6 attended). Consultation with all staff was held during several of the staff meetings.

Faculty and beyond: The OC subcommittee held regular discussions with the Faculty Director for Women in Engineering and the Engineering Athena SWAN Project Manager. The University HR E&D team also had an input to the submission. Information and good practice regarding Athena SWAN is shared with all departmental Athena SWAN Champions through regular (every 2 months) Champions meetings. The Faculty Equality and Diversity Committee was set up in 2015 and includes a male PDRA from CBE. Members of FEDC sit on the University Gender Equality Committee and the University Equality, Diversity and Inclusion Committee, giving direct influence at a University level. A female academic in the department sits on the steering committee of Women@TUOS[2].

Data submitted to the Higher Education Statistic Agency (HESA) was gathered by University Strategy, Planning and Governance (SPG). Data on staff and students taking part in outreach activities were collected by faculty HR or internally by key members of staff involved. Data was also collected from reports received from external organisations, including REF, NSS, UCAS and IChemE.

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

The Opportunities Committee will continue to meet every 3 - 4 months as a full committee, and act as Athena SWAN Self-Assessment Team, with 3 meetings per year dedicated to Athena SWAN Actions. The Gender Equality Survey (GES) will continue to run every year, alongside a PGR and PDRA survey. We will undertake focus groups with the UG, PGTs and PDRAs (**A1.4**).

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[1] Staff Review and Development Scheme – annual appraisal for all staff
[2] University wide women's network

Ongoing work will be reported to the Executive Committee, to Staff through the department meetings and at the once monthly Mega-Fab Friday[3] to PGRS and staff (**A1.5**). Updates to the website and online handbook will also keep staff informed. A summary of the GES, PGR and PDRA surveys will be sent by email to all staff and discussed at staff meetings. The UG member will report back to the ChemEng Committee and any relevant feedback to students will also take place through the Director of Student Support and Staff-Student Committee.

The SAsT will continue to ensure a balanced representative group across departmental roles (**A1.1**). The Chair of the OC will change every 3 years (in 2019). Workload will be examined in the WAM and in SRDS. The OC Chair or other OC representatives will take part in faculty level meetings and good practice will be shared with other departments at University-wide events (**A1.6**).

Word count of Section 3: 1112

A1.3	Ensure the role of staff invited to take part in the GES is known	Obtain the list of staff on the email list used for invitation to the survey and check roles
A1.4	Increase response rate of staff and PGR students on GES	a. Revise current GES with separate sections for Academic and PaS; review questions on PGR and PDRA survey to ensure they are relevant b. Advertise GES and separate PGR and PDRA survey by email and in staff meetings c. Encourage staff and PDRAs to complete survey by discussion with OC reps
A1.5	Increase awareness of gender equality issues and Athena SWAN	a. Analyse results of surveys at OC and Exec meetings and compile report b. Report on surveys sent to all staff and highlighted at staff meeting c. Record progress on Action plan in online spreadsheet on departmental handbook and highlight at staff meetings d. Update departmental website with information related to gender equality issues
A1.6	Share good practice at Faculty and University level	Attend Faculty and University Athena SWAN meetings to: a. Take on board good practice from other departments b. Disseminate new actions that have been successful

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[3] Fab Friday is a weekly get together with tea/coffee, cakes and biscuits for all staff members and PhD students. Once a month we hold Mega-Fab Friday with announcements from the HoD.

4. PICTURE OF THE DEPARTMENT (2000 WORDS)

4.1 Student Data

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

A foundation year is offered to students that do not have the standard entry qualifications for a BEng/MEng in Chemical Engineering (Figure 7). The low numbers on this course make it difficult to identify trends with regards to the %female (**A2.1a**).
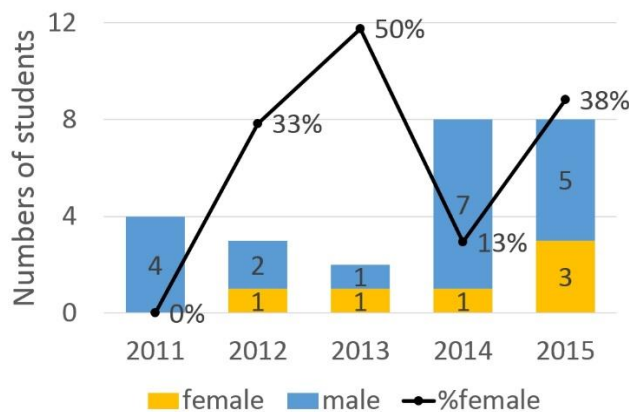

Figure 7. Numbers of students registered on the foundation year and % female of total numbers by cycle year (2011 = 2011/12).

(ii) Numbers of undergraduate students by gender

Full- and part-time by programme. Provide data on course applications, offers, and acceptance rates, and degree attainment by gender.

We offered eleven undergraduate programmes from 2011 – 2015, all full time. The total numbers of UG students registered on these programmes has increased from 297 to 508 (Figure 8).
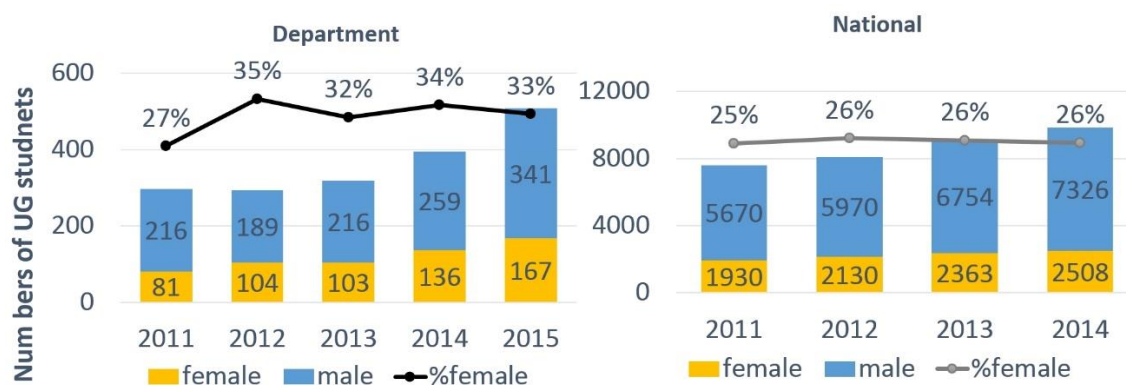
Figure 8. Left: Total numbers of students registered on all eleven undergraduate programmes, and %female of total numbers, by cycle year (2011 = 2011/12). Right: National numbers of students on courses with JACS code H8 - Chemical and Process Engineering and %female of total (source: HESA).

Impact of actions: The department displayed a deep commitment to improving the %female through the introduction of a number of actions from 2010 during the recruitment process (discussed below). Overall, large increases (71%) in the total student numbers were obtained,

whilst increasing then maintaining the %female at 34%, which is an excellent achievement. **This is 8% higher than the national average on courses with JACS code H8 (Chemical and Process Engineering).**

Split by programme: Around 80% of students are registered on the BEng/MEng in Chemical Engineering. The total numbers of students on these programmes is shown in Figure 9. The percentage of overseas students is 42(±5)% over the past 5 years and there is a high %female in the overseas students. There was a jump in %home female students in 2012 as the numbers of females increased and the numbers of males decreased compared to the previous year (next section).
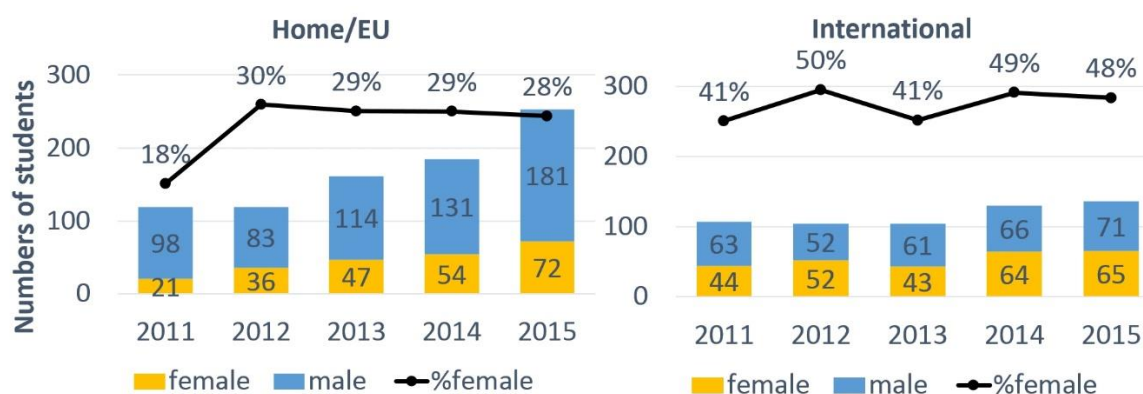
Figure 9. Numbers of home (left) and overseas (right) students registered on the BEng and MEng in Chemical Engineering, and %female of total numbers, by cycle year.

Applications. Of the female students that apply, more than 84% of them are made offers, slightly higher than the %offers made to male applicants (Figure 10). Of those that are made offers, more than 21% accept, which compares well with the % acceptances of male students (~20%) so there does not appear to be any gender bias in the application process.
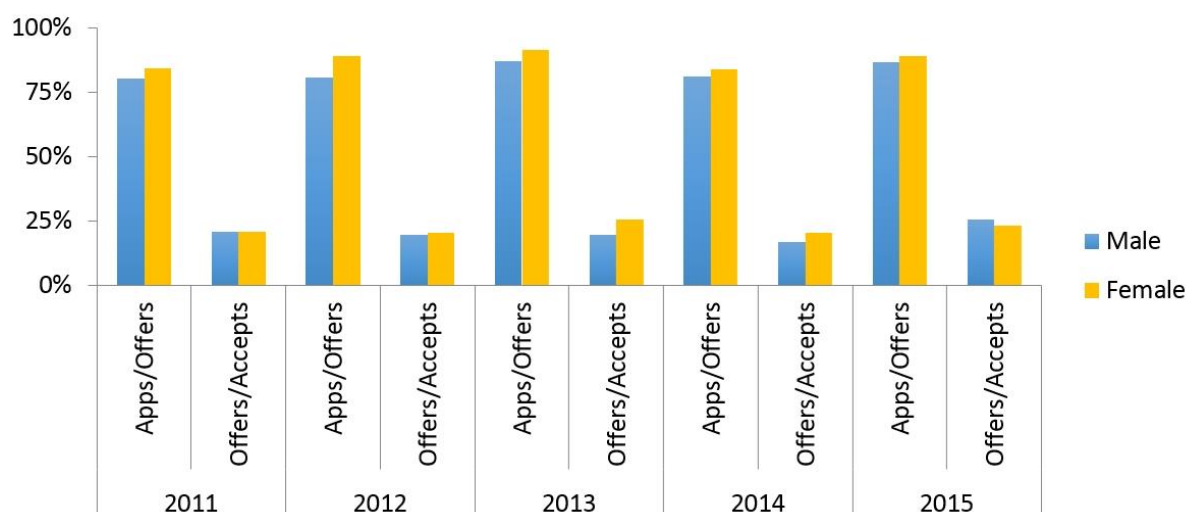
Figure 10. The % of applications converted to offers and % of offers converted to accept in the past five years (2011 – 2015).

The total numbers of students accepting places increased in 2015 and the %female of total applications to CBE was 34(±1)% over the past four years (Figure 11). **The %female students accepting offers at CBE is 8% higher than the national average.**
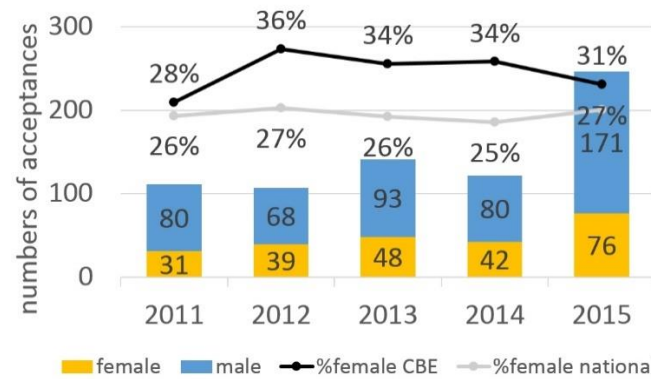
Figure 11. The numbers of students accepting places and %female of total numbers compared to national data on Chemical Engineering courses from 2011 to 2015, by cycle year (source - UCAS).

Impact of actions: From 2012, the increase in the %female accepting is correlated with the positive actions taken. The UG prospectus was revised and both male and female images were incorporated into all advertising material in brochures and the website (Figure 12). The UG open days were revised to include a number of activities including lunch with staff and UG student ambassadors, of whom a large proportion are female (Table 5).
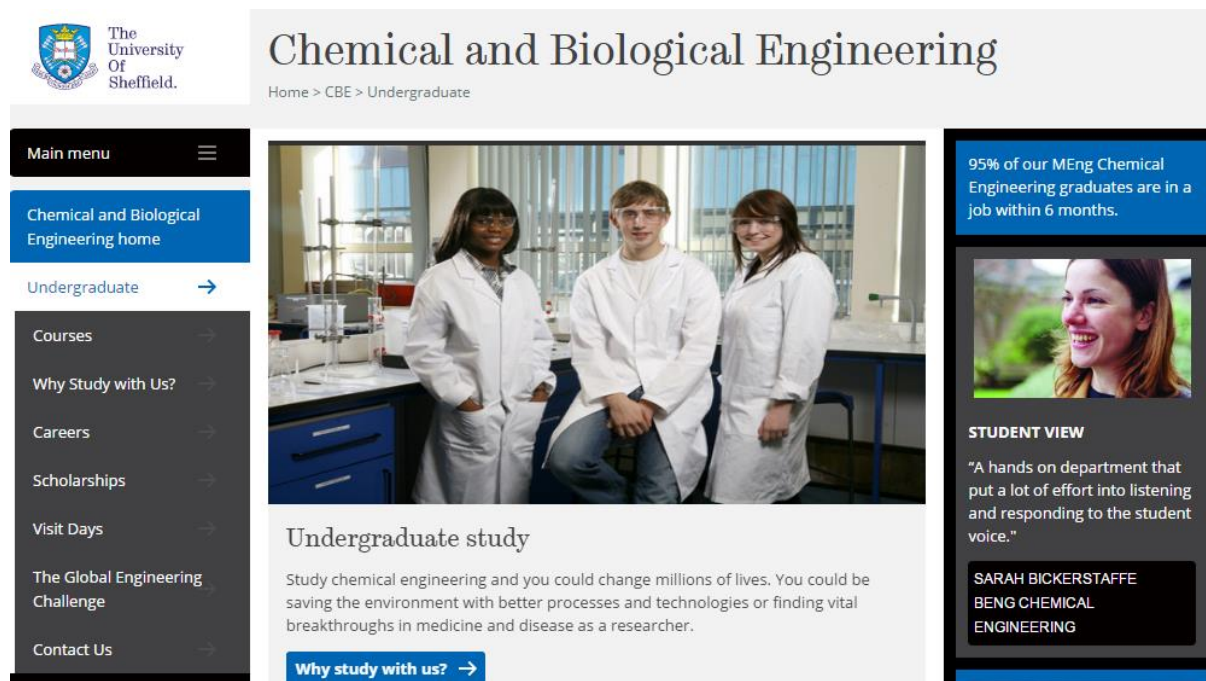
Figure 12. Website entry for undergraduate studies (October 2016).

Table 5. Numbers of UG ambassadors and %female of total numbers

	UG ambassadors
Male	17
female	15
%female of total	47%

The Open Days in particular impacted positively on female students, with comments such as:

"I was wowed by the open day here".

Registrations: The number of female students registering in their first year and %female of total is shown in Figure 13. In 2012, there was a large increase in the %female registering. This was an unusual year in that fees were introduced and only students obtaining grades above AAB were accepted – some males did not obtain high enough grades. Despite the fluctuations, **our % female intake is similar to, or greater than, the national average.**
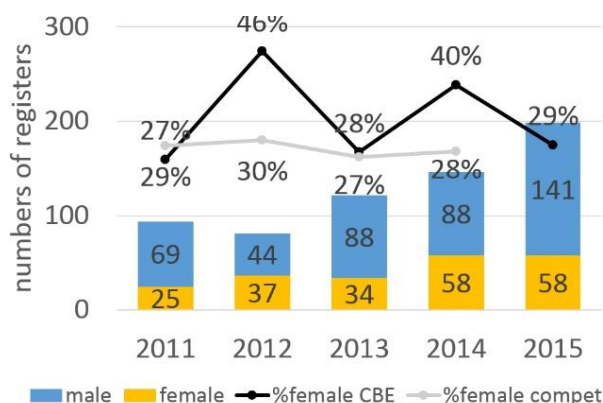

Figure 13. Numbers of students registering in their first year on all Chemical Engineering programmes and %female of total, compared to the average % female of our competitors (source - HESA).

Challenges: Our baseline data for female students was sensitive to changes in international student numbers. In order to maintain the %female above 30%, we will continue with actions (**A2.1**) and also to promote engineering in schools to encourage home students to apply (**A7.7**).

A2.1	Maintain %female of total UG students	a. Monitor UG application (including foundation year) and entry data by gender and determine %female of cohort b. Check there is a good gender & ethnicity balance in all new student marketing and advertising materials c. Perform UG entry survey to determine reasons for choosing us and ensure those activities continue d. Hold focus group with 10+ female UG students to discuss marketing material and activities e. Run friendly open days with 50% female ambassadors: recorded by admissions team

Degree Attainment: The numbers of students completing their degrees on all programmes are shown in Figure 14. The %female of the total numbers increased from 2011 to 2014. This is correlated with an increase in the number of male students that did not complete (Table 6). Students complete a leaver's form which records their reasons for leaving, from personal, academic (which includes them not enjoying the course as well as finding it difficult), medical or financial issues. There does not appear to be any particular trend in the reasons for either the male or female students leaving.
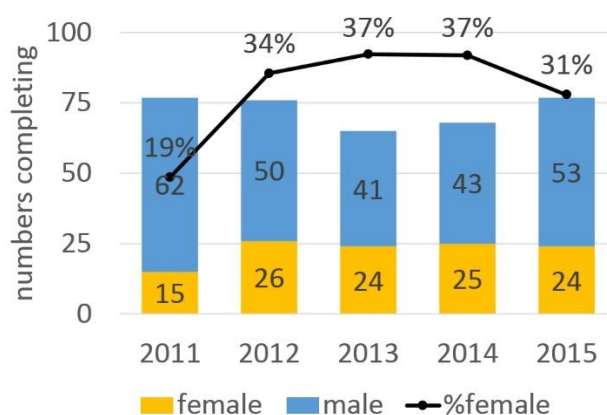
Figure 14. Numbers of students completing their degrees and %female of total numbers, by cycle year.

Table 6. Total numbers of male and female students leaving in each academic year and reasons recorded for leaving.

	Male	*Reasons listed*	*Female*	*Reasons listed*
2011	4	Transferred; no reason; personal	2	Personal; no reason
2012	8	Transferred; academic; personal; medical	3	Medical; no reason; academic
2013	8	Personal; medical; academic	0	
2014	7	Personal; academic; financial; medical	2	Academic;
2015	4	Personal; no reason	2	Transferred; academic

The degree attainment of the students is shown by gender in Figure 15, as a percentage of the total male or female students achieving a particular degree classification. The performance of both female and male students has varied year on year. There is no consistent pattern in the data that suggests a bias towards male or female students.

	female 2011	male 2011	female 2012	male 2012	female 2013	male 2013	female 2014	male 2014	female 2015	male 2015
1	4	19	10	13	7	9	12	12	7	15
2.1	3	23	13	17	9	19	9	20	9	29
2.2	5	12	2	17	5	11	3	9	7	8
3	1	5	1	2	2	0	1	1	1	1
pass	2	3	0	1	1	2	0	1	0	0

Figure 15. The degree attainment of male and female students. Graph: %students achieving a particular degree classification, for each gender. Table: the numbers of students.

Impact of Actions: Actions taken to ensure success of students include regular (fortnightly in first year) meetings with a personal tutor, a member of staff, assigned to every student. A Director of Student Support was introduced in 2011 and the staff-student committee meets regularly during term time to address any issues that arise. The UG ChemEng Society have an equality and diversity representative on their Committee to ensure activities are open to all. In 2011, a large budget for social activities was introduced (£35K total). Incoming first year female students are placed with a buddy from higher years, usually female. One 2nd year UG commented:

"my (female) buddy was there to give me advice about general University life, which was really helpful".

We will continue to ensure success of female students (**A2.2**).

A2.2	Ensure our female UGs continue to complete and perform as well as males	a. Determine final year performance by gender to find whether females and males perform equally well
		b. Determine numbers of leavers by gender and determine reasons for leaving
		c. Highlight buddy/mentoring opportunities
		d. Determine first year performance in exams and introduce more academic support in personal tutor sessions if necessary

(iii) Numbers of men and women on postgraduate taught degrees
Full- and part-time. Provide data on course application, offers and acceptance rates and degree completion rates by gender.

The department offers three main PGT courses: Environmental and Energy Engineering (EEE) (JACS code H800), Biological and Bioprocess Engineering (BBE) (JACS code H831, J700 (50/50)

and Process Safety and Loss Prevention (PSLP) (JACS code H800, H120 (50/50)). The total numbers of female students registered on the PGT courses increased in 2012 but then decreased, **the %female remains above 30% and is consistently higher than national %female of PGT students on H8 courses**.
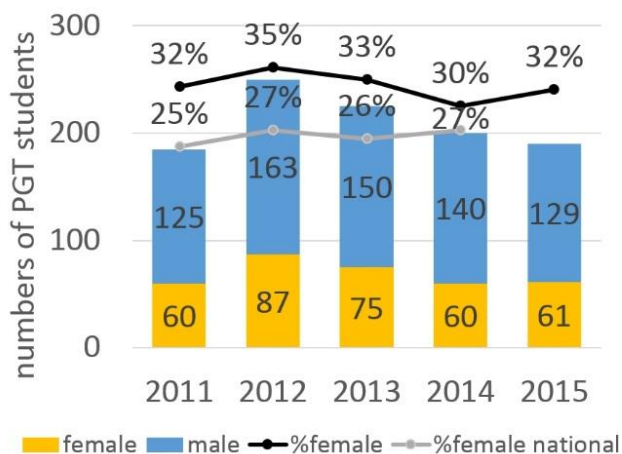
Figure 16. Total numbers of students registered on the PGT courses, % female of total and comparison with national %female of PGT students on H8 – Chemical and Process Engineering courses (source - HESA) by cycle year.

Split by programme: There is a large variation of %female of total numbers on the different PGT programmes. The EEE and BBE courses are full-time courses over one academic year. The EEE has the largest numbers of students of all the PGT courses. The %overseas of total numbers is 85% (±3) over the past 5 years. The BBE course has smaller numbers and attracts a much higher %female possibly as a result of a larger number of female students having a biology background.
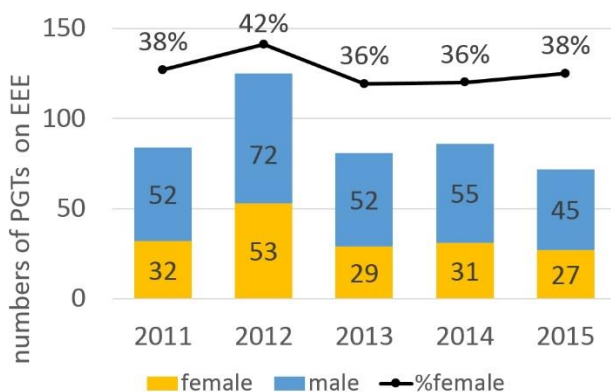
Figure 17. Number of PGT students on the EEE programme and %female of total, by cycle year.
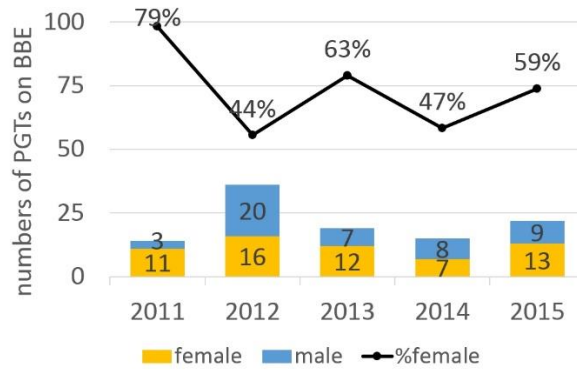
Figure 18. Numbers of PGT students on the BBE programme and %female of total, by cycle year.

PSLP can be studied full time or part time. The part time course attracts mainly mature students from industry where the proportion of female engineers is low – only 7% (source - IChemE). The %female has been steadily decreasing since 2011 on the part time mode (Figure 19). On the full time mode, the total numbers and %female increased substantially in 2013.
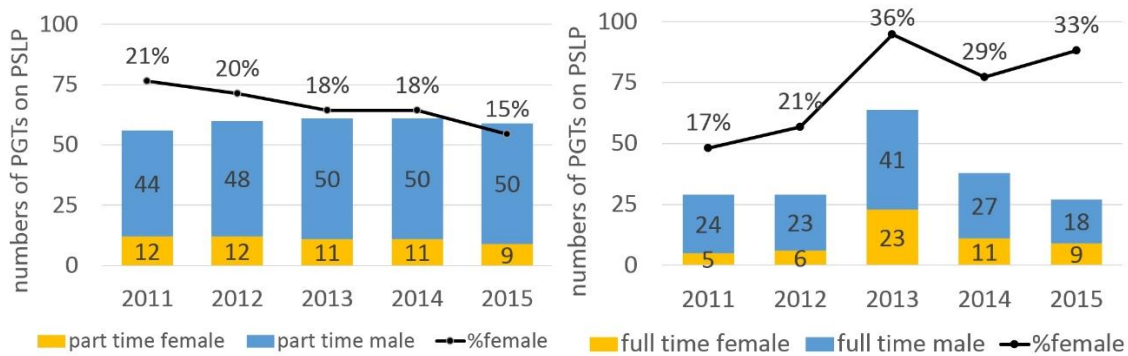
Figure 19. Part time (right) and full time (left) numbers on the PSLP course and % female of total, by cycle year.

Application Process: The total numbers of PGT applications and offers is shown in Figure 20 over a five year period. The %conversion rates from applications to offers and offers to accept is similar for male and female applicants. There does not appear to be any bias in the application process.
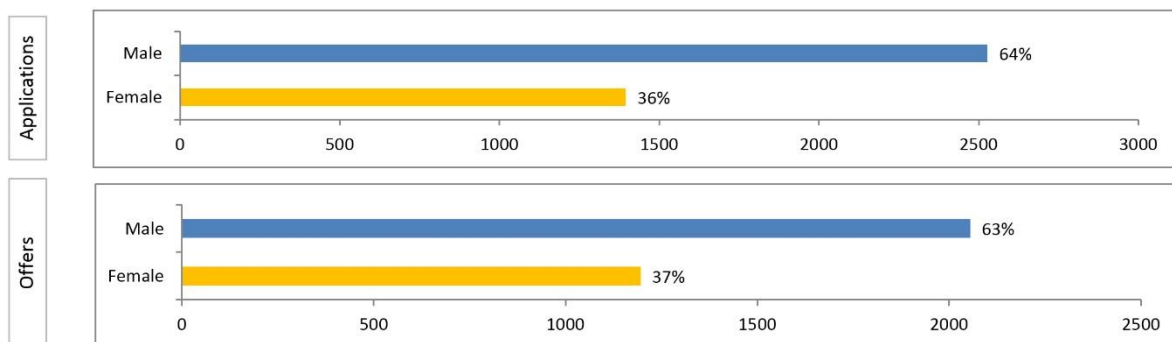
Figure 20. Total numbers of PGT applications and offers in past five years (2011 – 2015).

Completion: The courses run from September – September, so the numbers of PGTs completing in 2013 are for the 2012 cohort that were full time (Figure 21). There is currently no issue identified with PGT students not completing.
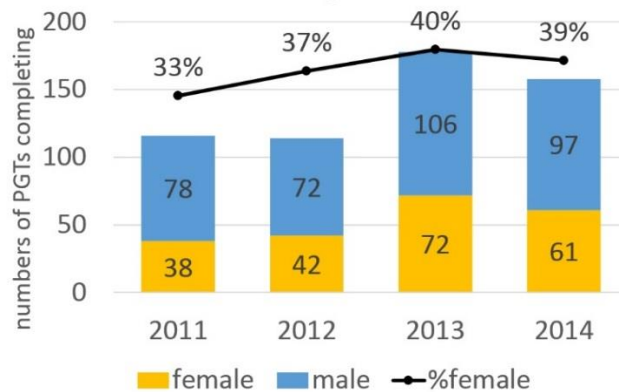
Figure 21. Numbers of PGT students completing their degrees and %female of total.

Impact of actions: The website was revamped in 2010 to be more professional and include more female-friendly images for our PGT courses (Figure 22). A large proportion of the EEE cohort is international and word of mouth is a significant factor in them choosing Sheffield. **A scholarship was introduced specifically for female postgraduate taught students.** Three were awarded in 2015 to students on EEE and BBE. Overall, we have a higher %female on the EEE and BBE than national figures on H8 full time PGT courses which we aim to continue (**A2.3**), but a lower %female on the PSLP part time as this mainly attracts participants from industry and the %female in the UK industry is low (7%).

Figure 22. Website entry for PGT course PSLP.

A2.3	Increase our % female of total PGT students	a. Determine application and entry baseline data to all PGT programmes by gender b. Ensure a good gender & ethnicity balance in all student marketing and advertising material and update material with information from female alumni, particularly on PSLP c. Run a focus group with 5 female PGT students on PSLP to discuss what attracted them to course d. Continue to offer scholarship to female PGT and advertise on PSLP material e. Review success of actions each year and amend if necessary

(iv) Numbers of men and women on postgraduate research degrees
Full- and part-time. Provide data on course application, offers, acceptance and degree completion rates by gender.

The PGR courses are full time or part time, but part time numbers are very small (2 male, 1 female in past 5 years). The total number of PGRs has increased by 55% from 2011 to 2015 and **the percentage of females has increased from 18% to 43%**.
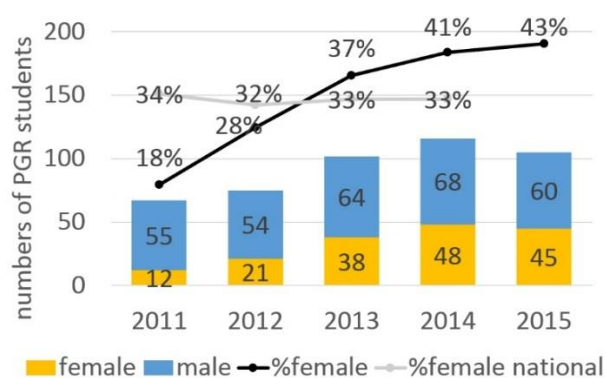
Figure 23. Total numbers of PGR students registered by cycle year (%female of total).

Impact of actions: The positive trend arises from a number of actions in our Action plan. A PGR open day was introduced with a significant number of female ambassadors contributing. The PGR information was updated to ensure female friendly images since 2011. We also included up to date profiles of female PhD students on website (Figure 24). Since 2012 we have seen an increase in female staff numbers and this may also have resulted in an improvement in terms of applications: one of our female lecturers is supervising 6 female PhD students. **Our %female PGR intake is better than national average since 2012.**
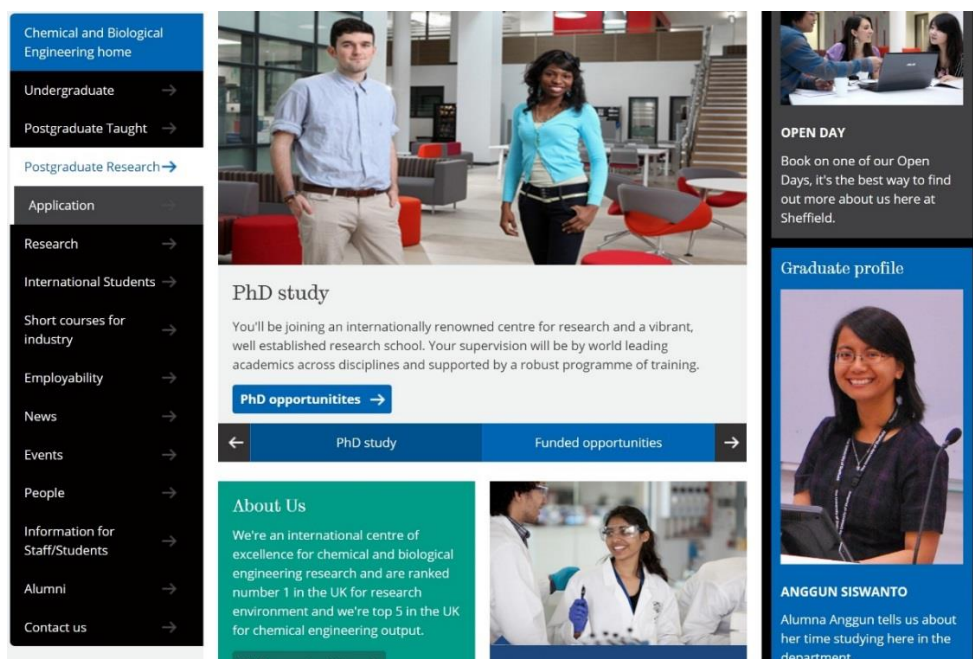
Figure 24. Website entry for PGR

Application process. From 2011 to 2012 there was a large increase in the number of home female students applying and accepting. There was also a large increase in overseas female applications and acceptances that continued after 2012: 10 per year from 2012 to 2015 compared to average of 4 per year 2012 to 2015 home students.
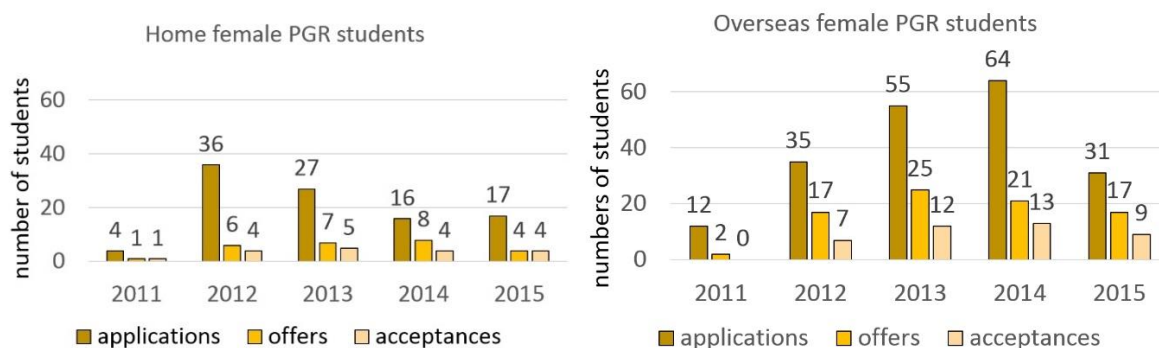
Figure 25. Numbers of applications, offers and acceptances for PGR students by cycle year.

Completion: In the past 5 years, the numbers of PGR students completing has varied (Figure 26) year on year, with a lower %female in 2012 and 2013; however much lower numbers of female PGR students started these programmes before 2010. The numbers of female students withdrawing are small and reasons for withdrawal varied; there is no particular trend for male or female students.
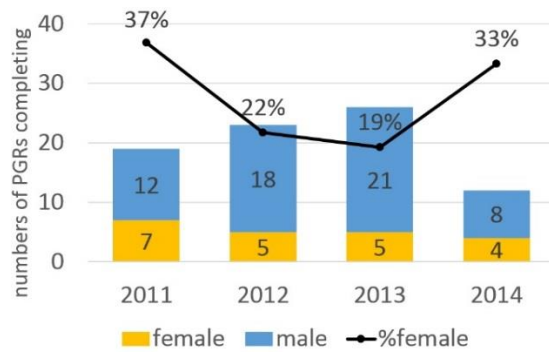
Figure 26. Number of PGR students completing (left)

Table 7. Numbers of PGR students withdrawing by cycle year.

	male	*reasons*	*female*	*reasons*
2011	0		0	
2012	2	financial; no reason	0	
2013	4	transferred; no reason; personal; personal	1	no reason
2014	3	academic; medical; personal	2	financial; personal
2015	2	personal; no reason given	2	personal; academic

(v) Progression pipeline between undergraduate and postgraduate student levels
Identify and comment on any issues in the pipeline between undergraduate and postgraduate degrees.

There has been **significant improvements** in the progression pipeline from 2011 to 2015. All of the courses have a %female that is above 30% and higher than the national averages; UK students tend to sign up for an MEng course in preference to BEng followed by PGT, therefore the UG course itself also provides a route to academia.
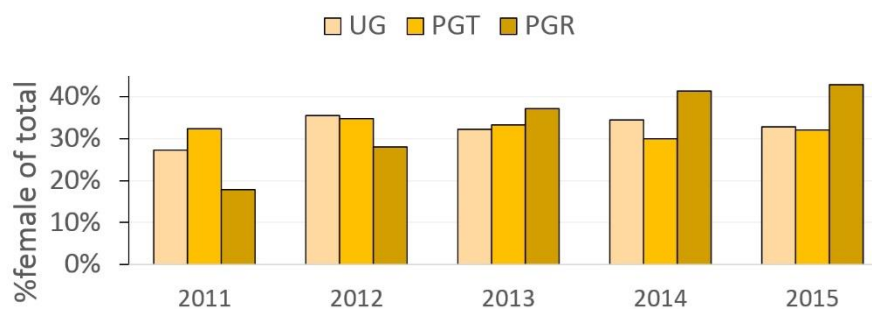
Figure 27. Pipeline. %female students of total from UG to PGR.

Challenges: The increase in applications from female international students that we observed from 2011 – 2014 now appears to be on the decline and therefore maintaining the %female PGR above 40% will require more emphasis on attracting home students (**A2.4, A2.5**).

A2.4	Maintain our %female of total PGR students	a.	Determine application and entry baseline data by gender

		b. Ensure a good gender & ethnicity balance in all student marketing and advertising material
		c. Hold PhD open day with 50% female ambassadors and numbers recorded
A2.5	Increase the home female intake on our PGR programmes	a. UG careers survey (years 2 and above) to find out reasons for choosing/not choosing academia: revise actions if particular issue
		b. Provide more information on academic careers in undergraduate programme
		c. Hold academic careers sessions with female PGRs and UGs

4.2 Academic and research staff data

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

Look at the career pipeline and comment on and explain any differences between men and women. Identify any gender issues in the pipeline at particular grades/job type/academic contract type.

Researchers. The Postdoctoral Research Associates (PDRA), mainly consist of staff employed on research grants but there are also a small number that come with their own funding or fellowships funded by the EU (e.g. Marie Curie) or Industry (Knowledge Transfer Partners KTPs). The numbers of female PDRAs decreased from 2011 to 2014 but recently increased again, reaching 25% overall of the total numbers (Figure 28).
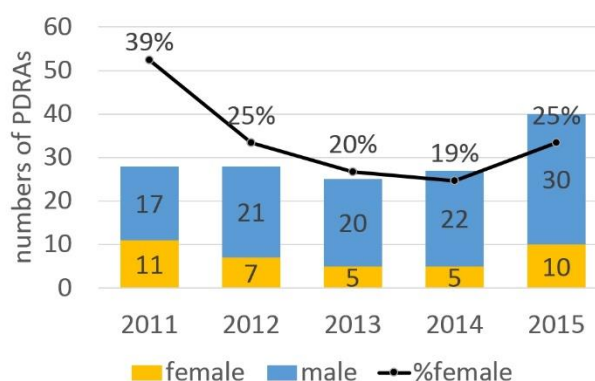
Figure 28. Numbers of PDRAs in the department by year and %female of total.

The majority of researchers are on grade 7, both male and female. The KTPs and MC Fellows are on a separate salary scale, funded by Industry and EU respectively. **There is no strong difference in the grade distribution between male and female researchers.**
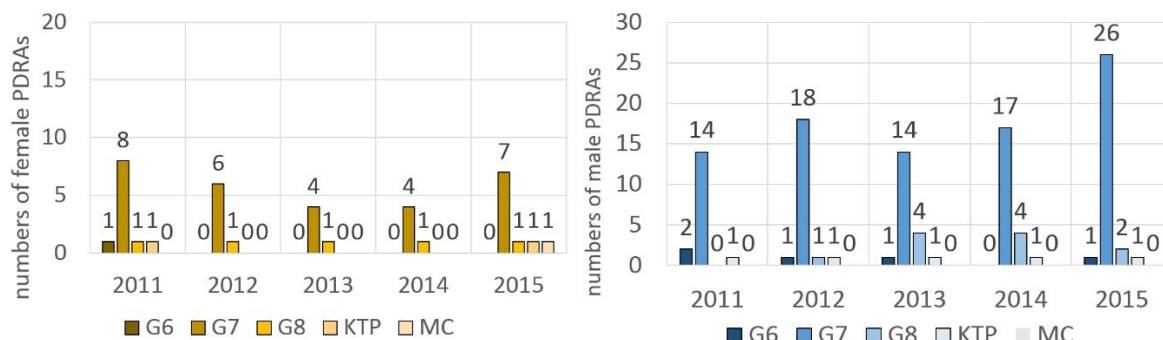
Figure 29. Numbers of PDRAs by salary Grade (G) and %female of total numbers. KTP = Knowledge Transfer Partner and MC = Marie Curie Fellow.

Academic staff: includes those on "research and teaching" contracts and those on "teaching only" contracts. There was a dip in the % female of total academics in 2013 with one female staff retiring and several males appointed. Since then the %female has increased to 26% with some new female appointments and male leavers (Figure 30). In 2014, the national numbers of academic females in Chemical Engineering was 27%, thus **our overall %female of academic staff compares well with national figures in this subject area.**
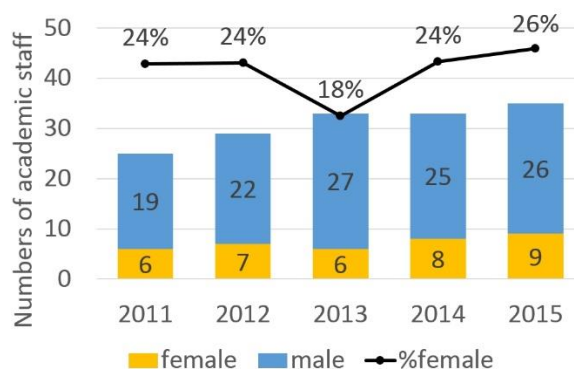
Figure 30. Total numbers of academic staff and %female.

In 2011 there were 3 female lecturers and two female professors and a noticeable gap in grade 9 (SL and R). Another female lecturer was appointed in 2012, giving a total of 6 female academics (Figure 31). One female lecturer was promoted to senior lecturer and one senior lecturer appointed, thus **our major achievement is a strengthening of the pipeline at grade 9, whilst maintaining %female at grade 8.**
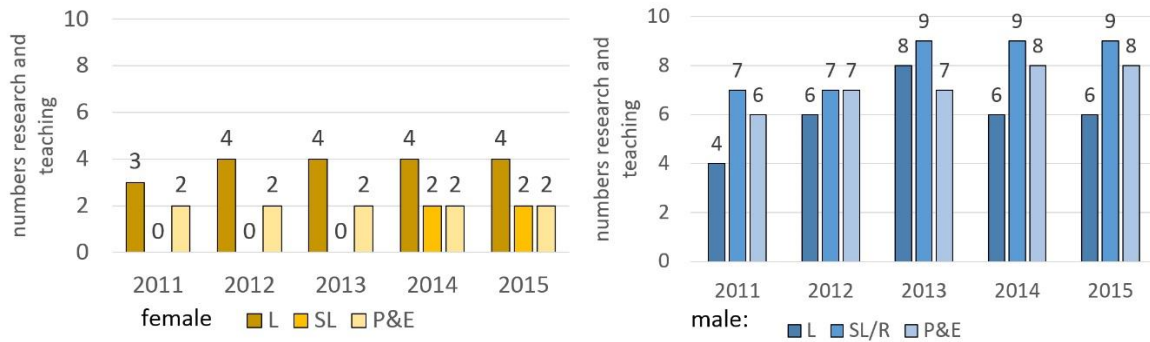
Figure 31. The numbers of academics on research and teaching contracts by salary grade (G): Lecturer (L) = G8; Senior Lecturer/ Reader = G9 and Professor and Emeritus Professor = G10.

A small number of academic staff hold "teaching only" roles (Figure 32). Discussion with male and female staff on teaching-only contracts suggests this type of contract is a chosen career path.
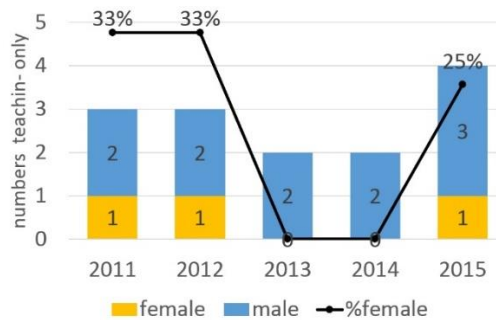
Figure 32. Numbers of academic staff on teaching only contracts.

Impact of actions: The department had a number of actions related to the recruitment process (next section) and has improved the progression of females through encouraging promotions. Since 2011, two female lecturers, a female senior lecturer and female senior university teacher have been appointed. **An improvement in the academic pipeline at the L and SL level has been observed (Figure 33).**
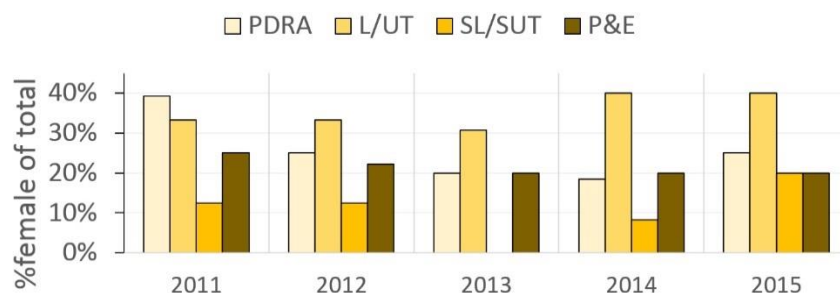
Figure 33. Pipeline. The %female of the total numbers of PDRAs, Lecturer/University Teachers (G8), Senior Lecturers (G9) and Professor and Emeritus Professors (G10).

Challenges: We aim for %female of academic and research staff to be consistently above 30%. Our female PDRA numbers fell in 2012 – 2014 and are began to recover in 2015. Although we

improved our advertisements, this did not appear to make much difference in terms of application numbers (**A3.1 – A3.4**).

A3.1	Increase %female of academic staff	a. Determine number of applications and number of acceptances by gender to check for biases in recruitment process; if biases found then obtain interview transcripts to examine reasons b. Ensure all staff undertake unconscious bias training (monitor uptake)
A3.2	Increase proportion of female applications to academic positions	a. State commitment to flexible working opportunities, equality and diversity, and include Athena SWAN logo on all job adverts b. Targeted advertising in places women look for jobs e.g. Women's Engineering Society c. Target talented PDRA females through colleagues or discussion with potential candidates at other universities, events, conferences etc d. Determine reasons for PDRA staff not choosing academia (PDRA survey) e. Monitor number of PDRA leavers (of the University) by gender and reason for leaving from exit interview or online leavers form and revise actions if necessary
A3.3	Increase the %female of PDRAs	a. Target talented PhD level females through colleagues or discussion with potential candidates at other universities, events, conferences etc b. Monitor recruitment data to check for biases: %female of total is not the same at application to interview to success stage, then determine reasons and revise actions c. Organise Engineering academic careers day for PGR students with prominent female speakers
A3.4	Increase success rate of PDRAs at interview stage	a. Determine reasons for female staff not being appointed to PDRA positions after interview process in transcripts b. Encourage interview training and monitor in SRDS

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

Comment on the proportions of men and women on these contracts. Comment on what is being done to ensure continuity of employment and to address any other issues, including redeployment schemes.

The department has recently been examining staff contracts to ensure that the University policy that 'staff within the University will be employed through open-ended contracts unless there is a legitimate reason why a fixed term contract should be used instead" is applied. In

2015, one female and eight male PDRAs were moved to open contracts (Figure 34). It is too early to tell whether there is any bias towards males so this will be monitored (**A3.5**).

Figure 34. Open ended and fixed term contracts – researchers.

All of our academic staff are on open ended contracts except for 1 male Professor and 1 female academic (G8). The male Professor was taken on primarily to oversee activities related to the Process Safety course and his contract runs to 2019. The female G8 came to Sheffield with her family when another department appointed her husband as a professor and the University supported her to develop her own career. Her current contract was due to run out on 30.06.2017, however she is going on maternity leave and the department was concerned that she will be at a disadvantage so it was agreed to extend her contract to 30.11.17 to compensate for the loss of time due to maternity leave.

Continuity of Employment: Those coming to the end of a period of fixed term funding are highlighted at risk of redundancy, or informed that alternative funding can be identified to support their continued employment. Consultation with research staff takes place with their line manager. All University staff with 6 months or more continuous service are eligible for redeployment allowing staff to be considered for positions before external candidates. A number of our staff have taken part in this scheme, for example one male PDRA was recently deployed from Chemical Engineering to Chemistry.

A3.5	Check for gender bias in PDRA contract type: open ended or fixed term	Determine research staff contract type by gender and reasons why %female on open ended contract is not same as %female on fixed term

(iii) Academic leavers by grade and gender and full/part-time status
Comment on the reasons academic staff leave the department, any differences by gender and the mechanisms for collecting this data.

The total numbers of academic leavers by grade and gender is shown in Table 8. Staff undertake an exit interview with their line manager and all staff are required to complete a leaver's form. Four male lecturers (G8) and one senior lecturer (G9) took up positions elsewhere. One Senior University Teacher (G9) retired and one Reader (G9) retired. One

Professor (PE) left for a higher position in another University in 2015. The relatively high number of male early career researchers (G8) leaving from 2012 – 14 was cause for concern: the former HoD commented "I am not convinced that previously there was adequate buy-in from academic staff on the workload balance required for successful completion of probation". More career support has recently been put in place.

Two females retired: one Senior University teacher (G9) in 2012, and one female Professor (P&E) at the end of 2015. This means 2 out of 10 or 20% of leavers were female during this time, which is less than the %female of all staff. **The department has an excellent retention of female staff.**

Table 8. Academic leavers by gender.

	2011	*2012*	*2013*	*2014*	*2015*
Male	0	1 (G8)	4 (2G8, 2G9)	1 (G8)	2 (1G8, 1P&E)
Female	0	1 (G9)	0	0	1 (P&E)
%female of total leavers	0	50%	0%	0%	33%

PDRAs are generally employed on a particular research project and leave when this is complete. Of the PDRAs, the % female staff leaving in 2011 and 2012 is around 40% (Table 9) which reflects the proportion of female staff that the department had in 2011 (39%). There is also a relatively high %female of total leavers in 2014, fortunately a number of new female staff were also employed around this time.

Table 9. PDRA leavers by gender

		2011	*2012*	*2013*	*2014*	*2015*
G6	*Female*	1	0	0	0	0
	Male	2	0	0	1	1
G7	*Female*	4	3	1	3	2
	Male	5	5	4	1	6
G8	*Female*	0	0	0	0	0
	Male	0	0	0	1	0
%female of total		42%	38%	20%	50%	22%

Word count for Section 4: 2495

5. SUPPORTING AND ADVANCING WOMEN'S CAREERS (6000 WORDS)

5.1 Key career transition points, academic staff

(i) Recruitment

Break down application data by gender and grade. The data should also include the long- and shortlisted candidates, and offer and acceptance rates. Comment on how the department's recruitment process ensures that women are encouraged to apply.

In the past five years the Faculty ran a number of Big Splash campaigns, a faculty recruitment strategy to increase academics; positions were advertised in all seven Engineering departments. The exact timing of the appointments may result in some crossover between years, so they have been grouped together for CBE (Figure 35). In 2011 and 2012, 7 male appointments were made (4G8, 2G9, 1P) and 1 female (G8). From 2013 – 2015, five males (4 G8, 1 G9) and two females were appointed: one Senior Lecturer at grade 9 and one Senior University Teacher at grade 9. There was a better success at appointment stage in 2013 – 2015.

In addition, one academic female and one male professor were appointed on a fixed term contract, and another male professor (now HoD) was appointed in 2015 under the direct appointment process. In total, 14 males were appointed and 4 females: 24%female of total were appointed and **there was an improvement in success rates of females to academic positions in recent years.**
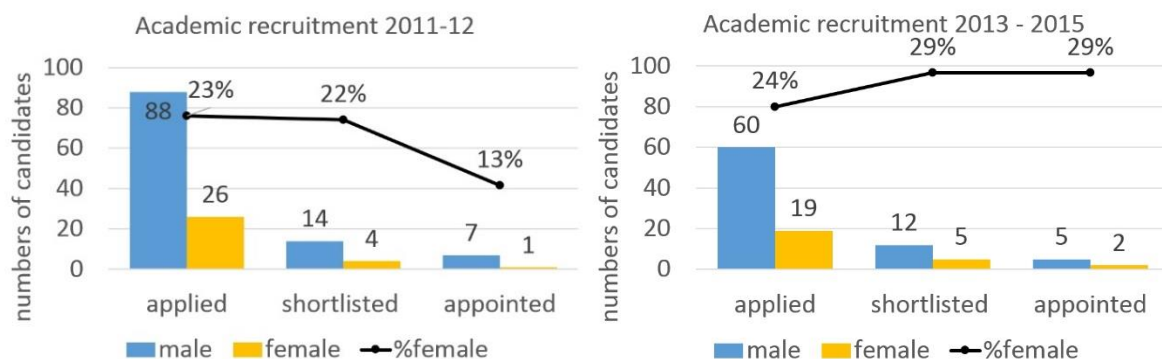
Figure 35. Academic recruitment between the years of 2011 and 2012 (left) and 2013 and 2015 (right). Numbers applying, shortlisted and appointed by gender. %female of total numbers shown as a line.

Impact of Actions: The department implemented a number of actions to increase the proportion of women applying for academic positions. All advertisements were checked by HR to ensure that the choice of words and images used avoids bias and is attractive to all. Positions were advertised on sites such as Women Engineering Society (WISE) and one advert also included a news story and blog (written by the Faculty Director WiE). Changes in advertising were implemented, including a commitment to flexible working and the Athena SWAN Principles. However we note that the %female of total applications was still 6% lower than our target of 30%. In our recent survey 46% of female PDRAs were undecided as to

whether to pursue an academic career (Figure 36) , and in future survey's we will ask PDRAs to explain why in order to help us encourage female PDRAs into academia (**A3.2d**).
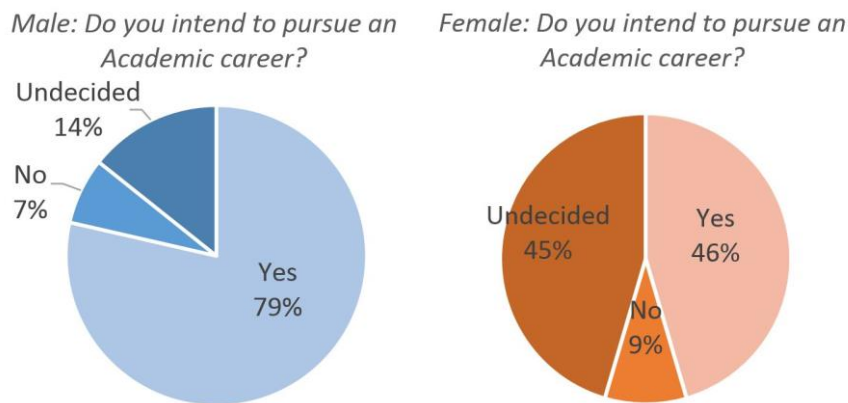
Figure 36. Response of PDRAs to question in PDRA survey in 2016

During the selection process, the department selection committee (DSC) produces a longlist of candidates and there is input from all staff. We checked for bias in selection: the same or a higher %female was interviewed as the %female that applied. We follow the faculty policy of ensuring DSCs included at least one female and a mix of seniority "for a balanced and fair candidate experience." **All interview panel chairs received unconscious bias training and all staff involved in recruitment were encouraged to undertake unconscious bias training** with a large improvement in the last 3 years (Table 10).

Table 10. The % of all staff, Academic, PaS and researchers, by gender responding yes to the question in the GES

	2013		2014		2016	
	male	*female*	*male*	*female*	*male*	*female*
I have undertaken training in unconscious bias	**16%**	**6%**	**14%**	**10%**	**50%**	**65%**

The number of applications, shortlisted and appointed for postdoctoral research positions are shown in Figure 37 for 2011 – 12 and 2013 - 2015. There was a decline in the %female of applications from 34% to 28%, however the %female interviewed was always higher than the %female applied. There was **an improvement was observed in the %females appointed from 2013 – 2015, from 14% to 26% female appointments**.

PDRA recruitment 2011 - 2012

numbers of candidates

34%   35%
142
73   14%
28 15   19 3
applied interviewed appointed

■ male ■ female —●—%female

PDRA recruitment 2013 - 2015

numbers of candidates

31%
28%   26%
273
104
38 17   26 9
applied interviewed appointed

■ male ■ female —●—%female
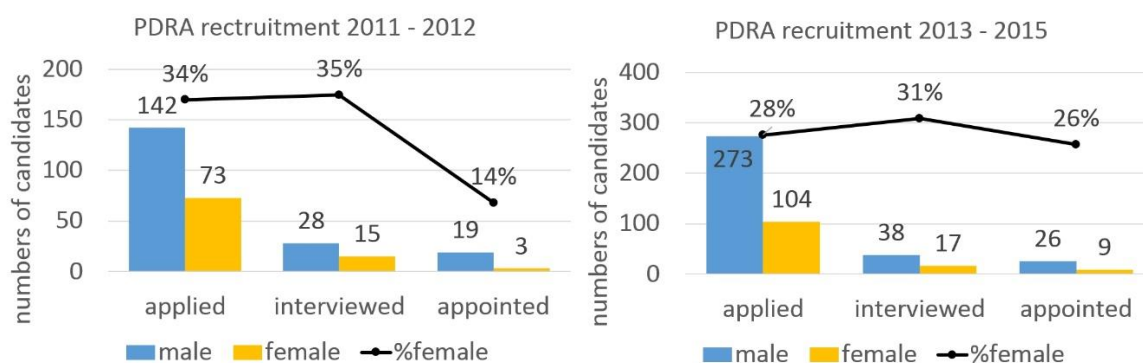
Figure 37. PDRA recruitment between the years of 2011 and 2012 (left) and 2013 and 2015 (right). Numbers applying, shortlisted and appointed by gender. %female of total numbers shown as a line.

Impact of Actions: The advertisement process is the same as for academic staff and includes checks by HR and recruitment advisors to ensure no gender bias. Our %female of applications to PDRA positions was close to our target of 30%. In our PGR survey in 2016 we found that more of our female PGRs (41%) had decided to pursue an academic career than our male PGRs (31%). Notes are taken on all candidates during the interview process, but there is no clear pattern as to why fewer female PDRAs were appointed between 2011 and 2012. We will continue to monitor this data and take action (**A3.3**).

(ii) Induction
Describe induction and support provided to all new academic staff at all levels. Comment on the uptake of this and how its effectiveness is reviewed.

All new academic staff receive a full induction into the department. There is a **new starter checklist**. This includes information about work hours, job roles and health and safety. New members have a tour of the department and meet with a member of the Executive Board, admin staff and a safety induction with the DTM. New staff are assigned a **buddy**. They also have the opportunity to meet all staff at the weekly Fab Friday[4]. In 2013, an online departmental handbook was created.

The Faculty runs an induction programme which gives advice on academic life at Sheffield University. The programme takes place over a series of half-days, each starting with lunch. PDRAs have their own event and are invited to join the **Faculty Engineering Researcher Society**. There is an extensive online handbook containing many resources. All academic and research staff are encouraged to attend a "**Welcome to the university event**" for new staff. The University operates a **Health and Well Being** initiative called Juice with a staff helpline, occupational Health Services and Staff Counselling. The Staff Equality Networks are also highlighted.

The effectiveness of induction is reviewed through the questions in the University staff survey and gender equality survey, as well as through questions in the focus groups. We do not have

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[4] Fab Friday is a weekly get together with tea/coffee, cakes and biscuits for all staff members and PhD students. Once a month we hold Mega-Fab Friday with announcements from the HoD

the gender split (or academic/PaS staff split) from the University survey, however, in 2016, 97% reported they were aware of Juice and 78% reported that they were aware of Wellbeing activities. The focus groups and PDRA survey demonstrated that they felt their induction to the Department and Faculty could be better: when asked "Do you think a PDRA handbook with information on departmental policies would be useful?" 60% responded Yes (**A4.1**).

A4.1	Improve induction of PDRAs into the department	a. Introduce induction checklist and printed department handbook for PDRAs b. Encourage PDRAs to be active in Faculty Engineering Researcher Society (ERS)

(ii) Promotion

Provide data on staff applying for promotion and comment on applications success rates by gender grade, full and part time status. Comment on how staff are encouraged and supported through the process.

Promotion of academics to a higher grade occurs through the Department Rewards and Promotion Panel (DRPP) that meets once per year. The DRPP is composed of the Executive Committee. Submissions are via line manager or self-submission. The line manager will provide support and suggest promotion during the SRDS. The applications are discussed at the meeting then put forward to the Faculty Reward and Promotions Panel (FRPP) for approval. Applicants are not put forward to the FRPP if there is insufficient evidence at that stage, and in that case the HoD meets with them and discusses the next steps with them for promotion.

The success rates were 100% for women and 73% for men during this period (Table 11). Of the males promoted: 1 was promotion from University Teacher to Senior University Teacher (->G9); 5 (out of 8) were from Lecturer to Senior Lecturer (->G9), 1 was from Senior Lecturer to Reader (->G9), and one was from Reader to Professor (->P&E). **There were 5 female lecturers able to receive promotion during this period; 2 applied and both of them were promoted to senior lecturer.**

Table 11. Numbers of academic staff promoted to a higher grade.

	Put forward for Promotion		Obtained Promotion	
	Male	*Female*	*Male*	*Female*
2013/14	5	1	5 (100%)	1 (100%)
2014/16	1	0	0 (0%)	0
2015/16	4	0	2 (50%)	0
2016/17	1	1	1 (100%)	1 (100%)

An accelerated increment within grade is awarded for staff who have: "consistently contributed and performed above and beyond the expectations of a suitably experienced and

qualified person in their role". Both academic and research staff are eligible and the success rate was 100%. Overall during this time period there were 4 female awards and 15 male awards (Table 12) so **the % female was 21% which reflects the proportion of female academic and research staff in the department**.

Table 12. Numbers of staff receiving accelerated increment awards.

Accelerated increments	Male	Female
2013/14	6	1
2014/15	4	2
2015/16	5	1

Impact of actions: There were a relatively low number of female academics able to obtain promotion during the past 5 years, however it is particularly encouraging to see promotion of lecturers to senior lecturer and they both commented on the support of staff senior staff including the HoD was important in their decision to apply. Promotion procedures were also highlighted in emails and at staff meetings. Training programmes have also helped: in 2011, one female reader who was encouraged to take part in the leadership programme found it useful in helping her have the confidence to apply for Professor. Since the 2013 Athena Swan Award, a **Departmental Academic Advisor** (male) was appointed for research staff who overseas progression and is an advocate for promotions. In our PDRA survey in 2016, two males and two females said they had received help for an application of a pay award.

Challenges. Despite individual successes, overall there is still some lack of understanding of the promotion process, as captured in the Gender Equality Survey (Table 13), that we aim to improve (**A4.2**).

Table 13. % of academic and research staff agree and strongly agree in the GES by year

	2013	2014	2016
I understand the promotion process in my Department	71%	66%	66%
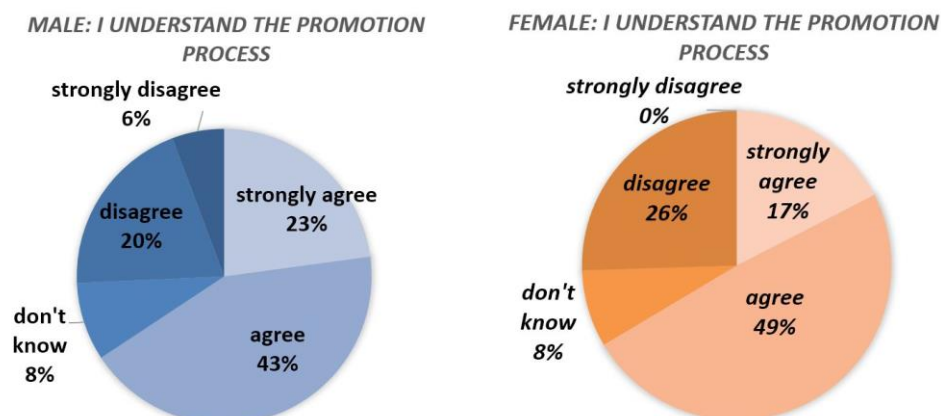
Figure 38. Response of academic and research staff to question 5 on the GES in 2016.

A4.2	Improve understanding of promotion and SRDS process	a. Encourage all staff to undertake SRDS training and monitor uptake b. Raise awareness of promotion process in emails and at staff meeting c. Increase information in department handbook on SRDS d. Celebrate success at Fab Friday and by emails

(iv) Department submissions to the Research Excellence Framework (REF)
Data on the number of staff submitted to REF should be presented. The data should include the numbers that were eligible and the numbers submitted and should be broken down by gender. A comparison of the REF data should be made with the data from the Research Assessment Exercise (RAE) 2008, with commentary on any gender imbalances.

CBE included 30 staff to UOA 12: Aeronautical, Mechanical, Chemical and Manufacturing Engineering, alongside 24 other institutions. We ranked in the top 5 for Research Output with 90% of the outputs rated as 3* or 4* and overall 89% of the submission was rated as internationally excellent or world-leading. Five female staff were included, two professors, two lecturers, a senior researcher and another female researcher was included in an impact case study. In the 2008 RAE submission, 20 staff were submitted to UOA 26: Chemical Engineering, alongside nine other Chemical Engineering Departments. At that time, only 55% of the submission was rated as 3* or 4*. The 2008 submission included 3 female staff and 17 male staff. There was an improvement in terms of the %female of the staff included in 2014 compared to 2008 (Table 14).

Table 14. Numbers of staff submitted to REF and RAE

	RAE(2008)	*REF2014*
Number of Female staff	3	5
Number of Male staff	17	25
%female of total staff included	15%	17%

For the 2014REF Unit of Assessment (UOA) Management Teams undertook a staff verification exercise and the Chair of the Team was response for feedback back to staff on decisions. Following this process, two male and two female academics were not included in the 2014REF, and this was discussed with them - one female lecturer stated she was "fully informed". This means that 2/7 (29%) of female staff were not included compared to 2/27 (7%) male. The low numbers of total females in the department makes the data sensitive to individual cases, which are not discussed in detail here.

Challenges: For the next REF in 2020, it is important that we ensure there are no specific barriers preventing female staff from producing high quality outputs. Discussions with female

academics have suggested that barriers to publication of research may include overburdening with administrative tasks/ teaching duties early on in their career (**A4.3**).

A4.3	Ensure early career female researchers are able to produce quality research publications	a. Discuss barriers to publication with mentors and SRDS and remove b. Ensure female researchers are involved in REF discussions

5.2 Key career transition points: professional and support staff

(i) Induction

Describe the induction and support provided to all new professional and support staff at all levels. Comment on the uptake of this and how its effectiveness is reviewed.

Department induction for technical and administration staff is organised by the Department Technical manager (DTM) and Departmental Administration Manager (DAM) respectively. All new staff attend a department induction. This includes a tour of the department, meeting relevant staff including their line manager and a safety induction, followed by online safety training. The contents of a **printed departmental handbook** are discussed individually with staff. New staff are encouraged to attend Fab Friday to meet all staff.

The Faculty of Engineering provides an **online staff handbook** which has information on who's who, key committees, central faculty initiatives, and past copies of the Faculty newsletter (issued monthly). All new staff are encouraged to attend a "Welcome to the university event" highlighting the Health and Well Being initiative called Juice which includes a range of 'feel good activities' such as mindfulness, knitting, Tai Ch. The Staff Equality Networks are also highlighted.

The effectiveness of induction is reviewed through the response to questions in the gender staff survey and in the University Survey. In the University survey in 2016, 97% reported they were aware of Juice and 78% reported that they were aware of Wellbeing activities.

(ii) Promotion

Provide data on staff applying for promotion and comment on applications and success rates by gender, grade and full and part time status. Comment on how staff are encouraged and supported through the process.

Promotion of Professional and Support staff can be achieved via "recruitment to a position at a higher grade", when a business need is identified. Alternatively, "regrading" may occur when departments recognise there is a need for a role at a higher grade than the candidate currently is on. Five of our PaS staff have achieved promotion through discussions with their Line Manager that led to their recruitment to a higher grade, two female and three male (Table 15). For example, one of our female staff was promoted to Undergraduate Admissions and Recruitment and Careers Liaison Officer.

Table 15. Numbers of Professional and Support Staff promotions by recruitment to a higher grade.

	Put forward for Promotion		Obtained Promotion	
	Male	*Female*	*Male*	*Female*
2013/14	1	2	1 (to G5)	2 (to G6 and G7)
2014/15	2	0	2 (to G5 and G6)	0
2015/16	-	-	-	-

PaS can also receive an accelerated increment award – a pay rise within grade. The numbers of staff put forward and obtaining this award is shown in Table 16. The success rate was 100%. Overall during this time period there were 12 female awards and 7 male awards.

Table 16. Numbers of Professional and Support staff receiving accelerated increments.

	Male	*Female*
2013/14	2	4
2014/15	3	1
2015/16	0	2
2016/17	2	5

Impact of actions. Awareness of policies has been raised through emails and announcement at staff meetings. Female staff were encouraged to apply by their manager following discussion during the SRDS. Some improvement is still required in the understanding of the process (**A4.2**), as is evident from the GES (Table 17). We find no evidence of strong difference in response by gender to the understanding of the promotion process (Figure 39).

Table 17. % of PaS staff agree and strongly agree in the GES.

	2013	*2014*	*2016*
I understand the promotion process in my Department	64%	62%	61%
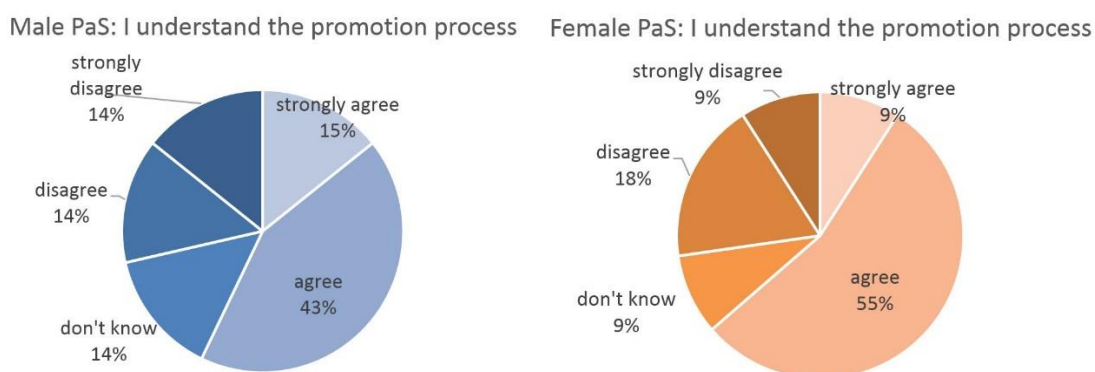
Figure 39. Response of professional and support staff to question in GES 2016 by gender.

5.3 Career development: academic staff

(i) Training

Describe the training available to staff at all levels in the department. Provide details of uptake by gender and how existing staff are kept up to date with training. How is its effectiveness monitored and developed in response to levels of uptake and evaluation?

There are many training opportunities available to academic and research staff. The **Engineering and Teaching Shorts (EATS)** sessions are good practice lectures and workshops covering issues such as Cultural Awareness. Two members of the department (1M, 1F) are presenting a session this semester. Staff sign up for University-wide training through the **Learner Management System** (LMS). Female staff can sign up to some Female-only sessions such as Dealing with Difficult Situations. There is also a **Supporting the Supporters** programme with sessions such as Managing Inappropriate Behaviour.

The **Learning and Teaching Professional Recognition Scheme** is encouraged for all staff who teach and workshops are geared towards staff wishing to gain professional recognition in the Higher Education Academy. All new Lecturers are required to undertake the Certificate in Learning and Teaching (CiLT) which leads to the title of Associate Member of the HEA.

The Sheffield Leader programme, designed to equip identified high potential individuals for significant leadership roles, is open to both males and females; participants must be nominated by the HoD for levels 1 – 3 and Faculty PVC for level 4. There is a strong female participation in this programme from CBE (Table 18). The University also runs MANAGE programme with sessions on management skills and fierce conversations.

Table 18. Numbers of staff from CBE taking part in Leadership Training Programmes

	2011	2012	2013		2014		2015	
	female	*female*	*female*	*male*	*female*	*male*	*female*	*male*
Sheffield Leader 1 - 3	-	2	1	2	-	1	2	1
Sheffield Leader 4	1	-	-	-	1	-	-	-
Management skills	-	-	-	-	1	3	-	3
Fierce Conversations	-	-	-	-	1	2	-	-

Impact of actions: Training opportunities are identified in the SRDS and many training sessions are advertised by email or posters. The HoD puts candidates forward to the faculty for the Leadership programmes after the SRDS round each year. Two female academics from the department have taken part in Sheffield Leader, one was subsequently promoted and one gained a faculty position. A senior female academic from the department commented:

"I was really pleased to be nominated by the PVC for the course and I thought it was fantastic".

Overall, staff feel they are encouraged to take up career development opportunities, as highlighted in the GES (Table 19). However, there was a gender split, with females more positive than males, particularly in 2014 and 2016 (Figure 40) so more information needs providing (**A5.1**).

Table 19. % of academic and research staff that agree and strongly agree in response to question in GES

	2013	2014	2016
I am encouraged to take up career development opportunities	94%	75%	81%
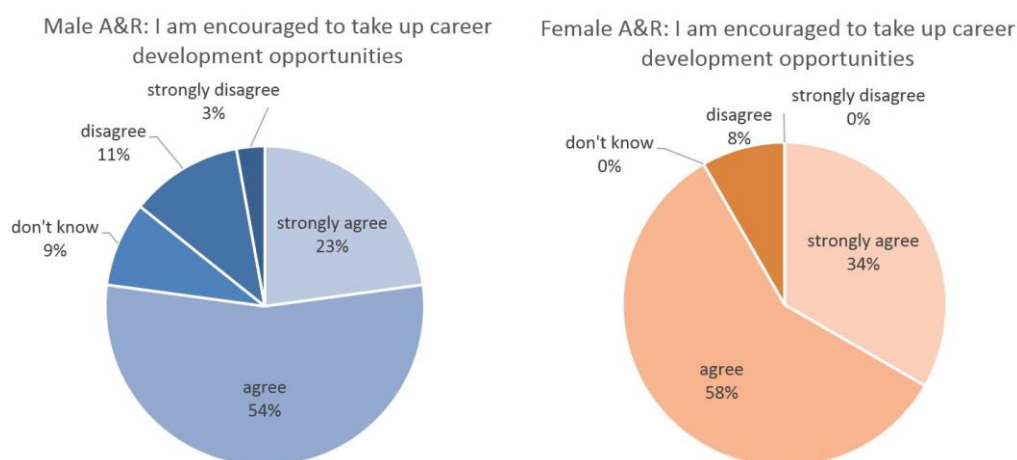
Figure 40. Response of academic and research staff to question in GES in 2016.

A5.1	Increase awareness of training available to all staff	a. Include more information on training in the SRDS forms and highlight to males in SRDS b. Send email on training and discuss at staff meeting/ teaching away days

(ii)   Appraisal/development review

Describe current appraisal/development review schemes for staff at all levels, including postdoctoral researchers and provide data on uptake by gender. Provide details of any appraisal/review training offered and the uptake of this, as well as staff feedback about the process.

All staff in CBE are required to take part in the annual **Staff Review and Development Scheme** (SRDS). The uptake was 100% in 2014, 99% in 2015 and 100% in 2016. As part of this process, academic and research staff consider what they have achieved in the past year, receive feedback from the designated Reviewer (usually their line manager), set objectives for the coming year and identify any training required to support the objectives. The department has developed separate forms for Academics and Researchers.

Training offered. Reviewers can chose the level of training they require. They can undertake the SRDS Skills for Reviewers one day training course or a one hour training session with HR. There is also an SRDS Webinar available on you-tube. Additional information on the SRDS was sent to all staff by email with links to the relevant policies and procedures that are online.

Staff Feedback. To establish the effectiveness of SRDS, there are related questions in the staff survey and the Gender Equality Survey. In general staff feel that they receive recognition for work well done – 86% agree in 2016 compared to 82% 2014. A high proportion of staff felt the SRDS was helpful and this has improved in 2016 compared to 2014 (Table 20).

Table 20. % of academic and research staff that agree or strongly agree in response to question on GES

My Department provides me with: 3. A helpful annual appraisal	2013	2014	2016
Academic staff	82%	69%	85%
Research staff	83%	60%	75%

Staff also feel more positive in 2016 about the range of skills considered in the SRDS, compared to 2014 (Table 21).

Table 21. % of academic and research staff that agree or strongly agree in response to question on GES

	2013	2014	2016
My Department values and rewards the full range of skills and experience including pastoral work, outreach work, teaching and administration: 1.In performance appraisals	83%	57%	76%

Impact of actions: The HoD was involved in many more academic SRDS interviews this year compared to in previous years in order to ensure that the process was more effective following the poorer feedback in 2014. This resulted in the most positive response from academic staff so far in the GES. Also, the department academic advisor took part in the SRDS of many researchers, in order to help them identify career progression goals. More uptake of SRDS training and monitoring this will help further improve this process (**A4.2**).

(iii)   *Support given to academic staff for career progression*
Comment and reflect on support given to academic staff, especially postdoctoral researchers, to assist in their career progression.

Probation. New lecturers in the department undergo a 3 year probationary period and are assigned a probationary advisor, usually a professor in the department who acts as a mentor. The department has a policy that they should meet at least once a month. Probationary

lectures are not given admin in their first year. Many academics have an additional mentor from outside the department through university-wide schemes.

Impact Mentoring is a HR-led university-wide scheme for female grade 8 academics. Mentoring is discussed in SRDS meetings and all female academics are individually emailed by the champions at the start of each mentoring round. Both female and male professors are eligible to become mentors. One CBE female academic commented:

"*Impact mentoring helped me to put my career into perspective and to pass probation*".

Futures is a HR-led university-wide mentoring scheme for senior female academics, initiated in 2010 in response to an item on the FAPAP[5]. All Pro-Vice-Chancellors agreed to mentor senior female academics. This aims to enable senior female academics to discuss their career progression with someone from outside their faculty. A senior female CBE academic took part in Futures and commented:

"*The programme allowed me to experience the day to day operation of a PVC, which really helped to demystify the role, and helped to give me some clear direction on what I wanted to achieve next and the confidence to apply for a chair.*"

Futures is advertised via email and the HoD has meetings with eligible staff.

PDRAs have a **Department Academic Advisor** to help with career progression. A university-wide 'Mentoring for Research Staff' scheme for all researchers started in 2012 and a Researcher Mentoring Manager was appointed. Whilst the scheme is open to both males and females, positive action is taken to ensure a higher proportion of female mentees than there may otherwise be. We pro-actively encourage participation in the scheme and from CBE there are two male and one female mentees, and one female and two males mentoring PDRAs from other departments.

In general, academic and research staff feel positively about mentoring opportunities and there was no strong split by gender in 2013 and 2016 (Table 22). However, analysis of the data revealed a number of academic and research staff were not aware of mentoring opportunities (**A5.2**).

Table 22. % of academic and research staff that agree or strongly agree in response to question on GES

	2013		2014		2016	
	male	female	male	female	male	female
My Department provides me with: 1. Useful mentoring opportunities (as mentor or mentee)	74%	69%	68%	100%	71%	69%

A5.2	Improve awareness of mentoring schemes	a. Determine uptake of academic and research staff on mentor schemes b. Inform PDRAs of Department Academic Advisor role c. Encourage uptake of mentoring schemes in SRDS and by advertisement by email/staff meetings d. Run mentor focus group with female PDRAs and female PaS

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

Comment and reflect on support given to students at any level to enable them to make informed decisions about their career (including the transition to a sustainable academic career).

The department has a dedicated Careers Liaison Officer who organises events for students at all levels. We run an **Alumni Speed Networking** opportunity for students to talk to our graduates about their career development. We also organise a **Careers Day** for students with sessions on finding placements, interviews and assessment centres. There is an employer exhibition including company stands and **talks from industry**.

The careers officer also offers advice and support **on CV and Covering letter** preparation with workshops and proofreading. There is an option for undergraduates to do a year in industry or year abroad. Wherever possible we engage the students as ambassadors for their experiences in **presentation sessions on the year industry**. There is a strong female uptake of these opportunities (Table 23).

Table 23. Numbers of students taking part in careers activities in 2016

	male	female	%female of total
Presentations on year in industry	8	9	53%
CV review sessions	40	36	47%
Alumni speed networking	21	9	30%

We also offer the **Summer Undergraduate Research Fellowship** (**SURF**) founded by one of our staff members (Table 24). Five former SURF fellows have managed to secure year-long industrial placements, upon completing SURF. This scheme has only been running a few years so we cannot identify trends in male:female ratio. CBE students can sign up to an **eMentoring** scheme in Autumn or in Spring where they exchange emails with a Sheffield Graduate in Industry. Typically up to 40% of the mentors are female. This scheme is extremely popular with female students:

"My mentor has been fantastic both on the views of the industry as well as cv skills and applying for placement. She literally could not be more helpful."

Table 24. Numbers of students taking part in SURF and the eMentoring scheme since 2014

	2014		2015		2016	
	Male	Female	Male	Female	Male	Female
eMentoring	3	6	4	4	7	10
SURF	-	-	4	4	6	2

For PGT specifically we run a careers induction day during the first week of term with workshops and activities about UK career market, employability skills, visa advice. We then run a follow-up session in semester two which will build on this and encourage people to engage with specialist PGT careers support provided by the University careers service.

PGRs take part in the **Think Ahead** programme, a blend of workshops, career mentoring and work-based opportunities. There is a dedicated Researcher Development Manager based in the Faculty of Engineering that organises these training activities.

All students are encouraged to take part in HEAR – a comprehensive record of their University Achievements.

(v)   Support offered to those applying for research grant applications
Comment and reflect on support given to staff who apply for funding and what support is offered to those who are unsuccessful.

The department research committee organise Research Away days once a year for all staff involved in research once a year to highlight grant opportunities. The department appointed a Business Development Manager who highlights opportunities, helps with proof reading applications and with costing. Institutional support, including direct contributions of money and resources, is recognised as important for winning grants. Policies include:

- Allocation of departmental studentships for RCUK first grant applications.
- 10% Return of a percentage of RNC to the PI

Researchers involved in any of the mentoring scheme obtain advice from their mentors on grant applications during preparation. Early career staff usually involve their probation advisors in their first grant applications. One of our female staff commented:

"I met regularly with my probation adviser, a female professor in the department. The informal advice and support provided in these meetings helped me to submit my first big research grant proposal and helped reassure me that I was on the right track."

5.4 Career development: professional and support staff

(i) Training

Describe the training available to staff at all levels in the department. Provide details of uptake by gender and how existing staff are kept up to date with training. How is its effectiveness monitored and developed in response to levels of uptake and evaluation?

There are many training opportunities for Professional and Support Staff in addition to the wider University opportunities available through the **Learner Management System** (LMS). The Faculty offers **Bite Size Training Sessions** on various skills such as Technology Troubleshooting and Application Forms (Figure 41).

Human Resources > Professional Staff Development >

Continual Professional Development

Bite Size Training Sessions

As a result of the feedback from you of what you would find useful, this programme of bite size (no longer than an hour) training sessions has been pulled together:

Excel and Pivot Tables 4th November 9.00am - 11.00am

Figure 41. Snapshot of part of the faculty handbook webpage

There is also a Programme **Supporting the Supporters** for any staff whose role involves student support and administration. Staff enrol for sessions through the LMS. There are workshops ranging from Managing Inappropriate Behaviour to Inclusive Assessments for Disabled Students

Communication: The full list is available on the online Faculty handbook and is kept up to date. Opportunities are highlighted in the SRDS and collated by the Faculty Administration Manager. Most of our Professional staff feel that they are encouraged to take up opportunities (Table 25). In 2014, it was recognised that fewer female staff felt encouraged to take up development opportunities. This has improved in 2016, however fewer male staff now feel they have opportunities in career development. This will be monitored and staff encouraged to take part (**A5.3**).

A5.3	Ensure PaS are aware and encouraged to take up career development opportunities	a. Provide information in SRDS form to remind PaS staff b. Encourage staff in SRDS and also at departmental meetings/ away day

Table 25. % of professional and support staff that agree or strongly agree with the question in the GES by gender

	2014		2016	
	male	**female**	**male**	**female**
I am encouraged to take up career development opportunities	**100%**	**75%**	**71%**	**91%**

In 2013 the CBE DAM working collaboratively with other EngDAMs led an initiative to create a Business Administration Apprentice Scheme. A package was developed that would enable successful applicants to rotate through departments in the Faculty (Table 26) gaining work experience in a range of areas (student administration, finance, research support, marketing etc.) whilst studying for an NVQ level 3 qualification. The rationale for the scheme was two-fold; to develop well trained and knowledgeable staff for the future and to provide departments with some flexibility to release other staff for secondments or other development opportunities elsewhere.

Table 26. Business Apprentices Rotation Timetable Cohort 1

Dept & Mentor	Sept - Dec '13	Jan - Mar '14	Apr - Jun '14	July - Sept '14	Oct - Dec '14	Jan - Feb '15
EEE (F)	Male1	Male1	~~Male2~~	~~Male 2~~	Female1	Female1
CIV (F)	Female1	Male2*				
MECH (F)	Male2	Female1				
CBE			Male1	Female1		
COM (F)			Female1	Male1		
MAT					Male1	~~Male2~~
ACSE	None	None	None	None	None	None
IPO					~~Male2~~	Male1
FACULTY OFFICE		Male2*				

*Male2 moved to Faculty w/c 17 Feb (One apprentice left the scheme to take up a higher grade Faculty post).

The Faculty of Engineering employed its first cohort of three Business Administration Apprentices (1F, 2M) in September 2013. On completion, bridge funding was found to keep the apprentices in the faculty until opportunities were available here for them to apply for. All Apprentices that have completed the scheme are now employed in the Faculty at higher grade posts. It is particularly notable that there is a largely equal gender split at application and interview and for posts more traditionally associated with 'female' roles.

Impact: The introduction of two faculty-wide training initiatives delivering impact in gender balance to the early parts of the administrative and technical staff pipelines.

(ii) Appraisal/development review

Describe current appraisal/development review schemes for professional and support staff at all levels and provide data on uptake by gender. Provide details of any appraisal/review training offered and the uptake of this, as well as staff feedback about the process.

All staff in CBE are required to take part in the annual **Staff Review and Development Scheme** (SRDS) and the return rate, including professional and support staff, was 100% in 2014, 99% in 2015 and 100% in 2016. The process and training requirements are the same for academic staff and professional and support staff but the forms were developed specifically for Professional and Support staff. The review takes place with the DAM for Administration staff and DTM for Technical Staff, or the appropriate line manager. Staff feel very positively about the annual appraisal with over 86% finding it useful (Table 27).

Table 27. % of professional and support staff agree or strongly agree with question in GES

	2014		2016	
	male	female	male	female
My Department provides me with: 3. A helpful annual appraisal	100%	83%	86%	91%

    (iii)   Support given to professional and support staff for career progression

Comment and reflect on support given to professional and support staff to assist in their career progression.

Professional and support staff take part in a number of mentoring and networking opportunities to aid them in their career progression. There is an annual **Faculty Away Day** which provides staff with the chance to meet other staff across the faculty. **Work shadowing** can be arranged informally so that a member of team can gain knowledge or experience of another role in the department. Staff can also apply for **secondment and project opportunities**. These are advertised on the University website or Faculty handbook. Staff that are interested discuss support with the DAM or DTM and line manger as part of the SRDS process. **GROW** is a cross-faculty mentoring scheme to help professional services staff enhance their skills, maximise potential, expand networks and consider career paths. Administrative staff taking part in these activities is shown in Table 28.

Table 28. Numbers of administrative staff taking part in career support activities

	Secondment or project	GROW (mentee or mentor) 2014	GROW (mentee or mentor) 2015	Job shadowing 2014	Job Shadowing 2016	Away day 2014	Away day 2015	Away day 2016
male	1	0	0	0	0	1	0	1
female	11	1	1	2	2.5	5	11	4

There has been an increase attendance of the technical staff in the Away Days over the past 3 years and many technical staff take part in the GROW mentor scheme (Table 29). One technical member of staff commented:

"Taking part in the GROW scheme really helped me secure a promotion to a supervisor position. I was able to request a mentor with the specific skills required for this type of position and he helped me prepare my application and assured me I was at the right level."

Table 29. Numbers of technical staff taking part in career support activities

	GROW 2014	GROW 2015	Job shadowing 2016	Away day 2014	Away day 2015	Away day 2016
male	5	4	2	6	7	10
female	1	1	0	0	1	0

Impact of Actions: Staff are encouraged to take part in schemes by their line manager at SRDS and through numerous emails. Female response has improved in 2016 following encouragement from DAM and DTM (Table 30).

Table 30. % of Professional and Support Staff agree or strongly agree with question in GES

	2014		2016	
	male	female	male	female
My Department provides me with: 1. Useful mentoring opportunities (as mentor or mentee)	88%	42%	86%	82%
My Department provides me with: 2. Useful networking opportunities	100%	75%	86%	91%

5.5 FLEXIBLE WORKING AND MANAGING CAREER BREAKS

(i)   Cover and support for maternity and adoption leave: before leave
Explain what support the department offers to staff before they go on maternity and adoption leave.

All staff are entitled to take up to a maximum of 52 weeks maternity leave. There is a dedicated University website, the Maternity Leave Toolkit that includes an overview of the process with useful links. When a member of staff announces their pregnancy, firstly a risk assessment is performed by the department health and safety officer in order to ensure that the environment of the worker is safe for pregnant women. Once they have announced the pregnancy to their manager, planning begins for their absence. There is a maternity leave planning checklist and they can determine eligibility for leave and pay. In addition to the university toolkit, the department also created a pro forma for academics taking parental leave to help them consider all aspects of their role. One recent returner commented:

"the form was really useful as I allocated deputies for all my income streams and additional supervisors for my PhD students".

There is informal support provided by Parent 2 Parent (P2P), part of the Parents@TUOS network. P2P aims to support staff in preparing for, taking, or returning from parental leave by providing an informal mentor or supporter, known as a buddy.

(ii)   Cover and support for maternity and adoption leave: during leave
Explain what support the department offers to staff during maternity and adoption leave.

The manager and staff member discuss and agree the plans for the return to work, e.g. breastfeeding arrangements and risk assessments (if applicable). The department offers re-induction and checks workload considering and identifying any potential training requirements for their return. The return date is confirmed with the manager, and any annual leave. **Keeping-in-touch** (KIT) days are used to keep both the academic and department up to date and provide the opportunity to discuss return to work and flexible working. During maternity leave, cover for teaching and admin duties is arranged by the department.

(iii)   Cover and support for maternity and adoption leave: returning to work
Explain what support the department offers to staff on return from maternity or adoption leave. Comment on any funding provided to support returning staff.

When the member of staff returns, the department re-induction programme includes discussion and agreement of SRDS objectives. The staff member receives appropriate updates on new or amended systems of work and any new members of staff or staff departures. The department has a policy of no admin and teaching load in the first full semester after returning from maternity leave. This allows the academic to concentrate more fully on research. The **Women Academic Returners´ Programme** (WARP) provides additional support, if needed upon return to work, to minimise the impact of extended leave on research activities. This programme can be accessed if women need additional support, over and above their

maternity cover, to keep their research on track. A senior lecturer recently returning from maternity leave successfully applied for WARP funding **as was awarded the full £10k.** She has been able to appoint to recent postgraduate students to complete experimental work and four journal papers are anticipated in the time.

(iv)   Maternity return rate
Provide data and comment on the maternity return rate in the department. Data of staff whose contracts are not renewed while on maternity leave should be included in the section along with commentary. Provide data and comment on the proportion of staff remaining in post six, 12 and 18 months after return from maternity leave.

The department has always endeavoured to find positions for female staff whose contracts run out whilst they are on maternity leave. All returned, to either the same post or a different post. Hence **the department has an excellent return rate**. The numbers that remained in post after returning from maternity leave are shown in Table 31. Three of the researchers left within 6 months, at the end of their contract and two academic female staff and two researchers remain in post today.

Table 31. Numbers of staff returning after maternity leave.

	2011	2012		2014	2015	
Grade	Left <6 m	Left <6 m	Remain	Remain	Left < 6 m	Remain
G7	1	1	-	-	1	-
G8	-	-	-	-	-	2
G9	-	-	-	1	-	-
P&E	-	-	1	-	-	-

(v)   Paternity, shared parental, adoption, and parental leave uptake
Provide data and comment on the uptake of these types of leave by gender and grade. Comment on what the department does to promote and encourage take-up of paternity leave and shared parental leave.

Staff may take up to 2 working weeks Ordinary Paternity Leave (OPL) at full pay. Since April 2015, the University has a shared parental leave policy. The combined amount of shared parental pay cannot exceed 37 weeks (**not including** compulsory 2 weeks maternity/adoption leave period) and the amount of leave cannot exceed 50 weeks. The numbers of staff taking paternity/ partner leave are shown in the table below. None of our staff took adoption leave during this time.

Table 32. Paternity/Partner leave by grade

	2011	2012	2013	2014	2015
G6	-	1	-	-	-
G7	-	-	-	1	-
G8	1	-	2	1	1
G9	-	1	1	-	-
P&E	-	1	-	-	-

All of the males in the paternity leave focus group (3 had previously taken paternity leave and 1 was about to) were aware that the 2 weeks of paternity leave has to be taken in one block. It was, however, felt that it would be better if this was a bit more flexible and in a recent case this flexibility was afforded informally. In general staff are aware of parenting policies and believe that the **University does not exclude those with parenting responsibilities** as evidenced by the response in the University Survey: **94% of staff responded positively.**

(vi)   Flexible working

Provide information on the flexible working arrangements available.

All applications for flexible working have been successful. One of the part-time female admin staff who was granted flexible working commented:

"It's brilliant. I can control my hours so that I am available for my daughters if needed whilst still ensuring that I work the contracted number of hours each week".

During the part time/flexible working focus group degrees of structured flexibility were discussed. Academics inherently have very flexible hours, whereas admin staff do not have the same flexibility. Currently five female professional and support staff work around family commitments and two male technicians work flexibly. In particular, the technicians praised their line manager in allowing them to move their hours to give them this flexibility. This was essential as it allowed them to do either the morning or afternoon school/nursery run and also reduced the financial impact of becoming a parent.

(vii)   Transition from part-time back to full-time work after career breaks
Outline what policy and practice exists to support and enable staff who work part-time after a career break to transition back to full-time roles.

To date, no staff have taken a career break and returned to a part time or full time role, however the policy is that once a career break has been agreed by the Head of Department, the staff member is guaranteed to be able to return to the same or a similar job. It is understood that working part time after a period of leave may enable a steady transition back to their former role. A formal arrangement is required (a contractual change) and a re-induction or re-training programme must be agreed upon with their line manager upon their

return. They must also discuss with the line manager how their work will be covered in their absence.

We will continue to promote flexible working/parenting policies to ensure all staff are aware of opportunities (**A6.1**).

A6.1	Continue to promote flexible working policies, maternity/paternity leave and career breaks	a. New question in GES on awareness of flexible working policies b. Include information in SRDS form c. Send information by email and staff meeting and include policy or links on departmental handbook d. Ask staff to include hours in their email signatures

5.6 Organisation and culture

(i)   Culture

Demonstrate how the department actively considers gender equality and inclusivity. Provide details of how the Athena SWAN Charter principles have been, and will continue to be, embedded into the culture and workings of the department.

Many of our staff and students have been involved in creating an inclusive environment in the department. Often our social events take place in the morning or lunch time in the Ideas Space, a custom built social area in the heart of the department (Figure 42). A weekly gathering - **Fab Friday** - was set up where free coffee, tea and biscuits are served and in 2013 **Mega-Fab Friday** was introduced – a once monthly event at which the HoD makes announcements to individually welcome new staff or say farewell to leavers and celebrate successes, such as grants or promotions.

Figure 42. Ideas Space in the Chemical Engineering building and cake at our Great Engineering Bake-off.

We also have organised events raising money for charity including a bake-off in which we raised £1500 for the Anthony Nolan Charity. The PGR society GRAND organise events such as the International Food Festival. Our **social activities are considered welcoming to both male and females** - this year 94% of all male staff and 100% of female staff agreed (Table 33).

Table 33. %of all staff that agree or strongly agree with question in GES

	2013		2014		2016	
	male	female	male	female	male	female
Work related social activities in my Department (such as staff parties, team building or networking events) are likely to be welcoming to both women and men	97%	100%	95%	82%	94%	100%

The OC have been responsible for implementing the Athena SWAN Action plan and raising awareness of gender equality issues at staff meetings, and away days. Reports are sent to all staff summarising the findings and actions arising from the GES. The new HoD in 2016 introduced a number of new actions to create an open environmental for all. The regularity of staff meetings has been increased and everyone, including PDRAs, are now invited. At one staff meeting in July, the HoD led a discussion group item on improving Inclusivity. There continues to be strong support in the department for engaging with gender equality (Figure 43).

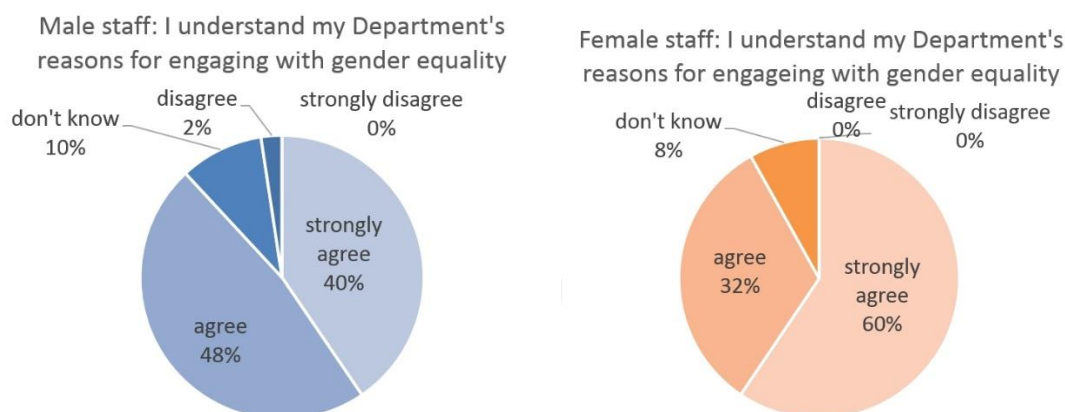*Figure 43. All staff response to GES question in 2016, split by gender*

In the last GES in 2016, when asked how Athena SWAN had impacted on the department, one staff member commented:

 "I think the department has a great sense of pride with regards to Athena SWAN which it should do. It's a great award, helping to demonstrate that the department cares about equality regardless of gender or race."

We will continue to ensure the department is aware of gender related issues (**A1.5**) and is considered inclusive (**A7.1**).

A7.1	Ensure department continues to be considered an inclusive environment	a. Emails sent each week encouraging staff and PGR to attend Fat Friday b. Continue to improve social aspects of department by arranging department wide gatherings and events c. All PDRAs and GRAND representative invited to staff meeting

(ii)   HR policies

Describe how the department monitors the consistency in application of HR policies for equality, dignity at work, bullying, harassment, grievance and disciplinary processes. Describe actions taken to address any identified differences between policy and practice. Comment on how the department ensures staff with management responsibilities are kept informed and updated on HR polices.

The University policies on equality and dignity are available on the website and also highlighted through the Athena SWAN section on individual departmental websites, the departmental and faculty online handbook. We had an action to raise awareness of the policies in the 2013 Athena SWAN action plan at meetings and this was monitored through a question in our gender equality survey.

Impact of Actions: There has been a significant increase in the awareness of the departmental policies on gender equality since 2013, however in 2016 there is a mismatch between male and female responses. We will continue to improve awareness (**A7.2**).

Table 34. %of all staff that agree or strongly agree with question in GES

	2013		2014		2016	
	male	female	male	female	male	female
My Department has made it clear to me what its policies are in relation to gender equality	68%	59%	67%	70%	87%	71%

A7.2	Improve visibility of departmental policies concerning gender equality	a. Increase information in department handbook by adding sections with links to University equality pages on policy regarding harassment b. Inform staff of policy updates via email and staff meetings

The policies and procedures regarding grievances are regularly updated on the University website. If the issue is not resolved informally then a formal written grievance is made which

outline clearly the basis of the grievance, followed by a formal grievance meeting with the involvement of HR and a panel of appropriately skilled University staff. There are training sessions for staff on supporting students with issues related to harassment: http://www.sheffield.ac.uk/ssd/support/training/harassment.

Consistency in application of policies: The outcome of individual cases are kept confidential in accordance with the data protection act. However, the formal grievances procedure will usually involve the DAM, DTM or HoD as the senior line manager. In 2016, 85% of staff believe that harassment would be dealt with effectively (Table 35). We aim to make all staff better aware of policies and improve confidence their correct application (**A7.3**).

Table 35. %of all staff that agree or strongly agree with question in GES

	2013		2014		2016	
	male	female	male	Female	male	female
I am confident that my line manager/supervisor would deal effectively with any complaints about harassment, bullying or offensive behaviour	89%	88%	87%	76%	85%	84%

A7.3	Improve confidence of staff regarding department dealing with harassment	a. Include links to policies on relevant documents including departmental handbook and discuss at staff meeting b. Include in PDRA handbook and PaS handbook

    (iii)   Representation of men and women on committees

Provide data for all department committees broken down by gender and staff type. Identify the most influential committees. Explain how potential committee members are identified and comment on any consideration given to gender equality in the selection of representatives and what the department is doing to address any gender imbalances. Comment on how the issue of 'committee overload' is addressed where there are small numbers of women or men.

The department committees are shown in Figure 44. All committees report directly to the Executive Committee. Committee members were identified by the HoD in conjunction with the DAM, DTM and appropriate members of staff. Some staff volunteered for the role and some were asked. This committee structure was introduced by the new HoD in 2016, with particular consideration of female representation and the new feature of all Chairs.
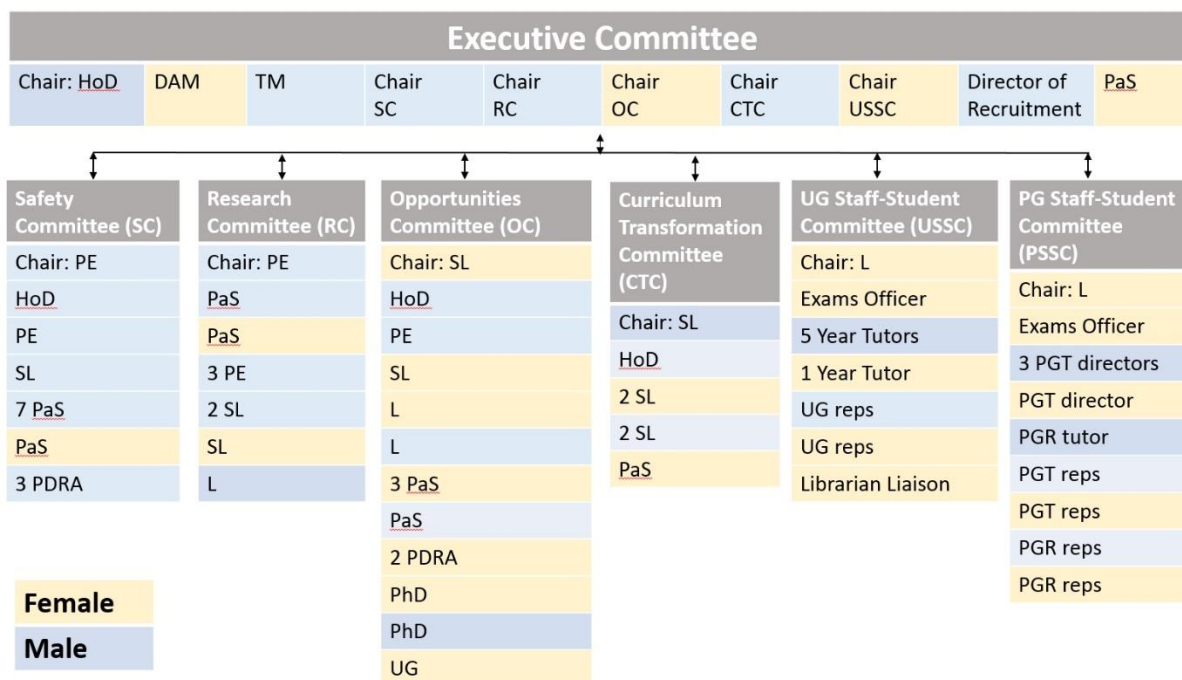
Executive Committee

| Chair: HoD | DAM | TM | Chair SC | Chair RC | Chair OC | Chair CTC | Chair USSC | Director of Recruitment | PaS |

Safety Committee (SC)	Research Committee (RC)	Opportunities Committee (OC)	Curriculum Transformation Committee (CTC)	UG Staff-Student Committee (USSC)	PG Staff-Student Committee (PSSC)
Chair: PE	Chair: PE	Chair: SL	Chair: SL	Chair: L	Chair: L
HoD	PaS	HoD	HoD	Exams Officer	Exams Officer
PE	PaS	PE	2 SL	5 Year Tutors	3 PGT directors
SL	3 PE	SL	2 SL	1 Year Tutor	PGT director
7 PaS	2 SL	L	PaS	UG reps	PGR tutor
PaS	SL	L		UG reps	PGT reps
3 PDRA	L	3 PaS		Librarian Liaison	PGT reps
		PaS			PGR reps
		2 PDRA			PGR reps
		PhD			
		PhD			
		UG			

Female
Male

Figure 44. Gender breakdown of department committees in 2016.

Overall the total gender split is 36% female on Department Committees, which is higher than the %female in the department. Several female staff and male staff sit on more than one committee. More could be done to ensure a good male female balance on the OC and SC – when current PDRA members leave they will be replaced by opposite gender. The committee structure will be reviewed annually (**A7.4**).

A7.4	Ensure good gender balance on departmental committees	a. Monitor committee membership on yearly basis and ensure %female reflects %female in department overall, but also on individual committees where possible b. Membership and minutes of all committees sent to staff by email and online handbook c. Rotation of staff on committees

(iv)   *Participation on influential external committees*
How are staff encouraged to participate in other influential external committees and what procedures are in place to encourage women (or men if they are underrepresented) to participate in these committees?

Positions on faculty and university committees are advertised through the email and staff are encouraged to apply by their line manager or the HoD. Currently two of our staff hold Faculty positions: one male (assistant director) and one female (director). There was a decline in our female staff feeling encouraged to represent the department externally in 2014 but this has started to recover in 2016 – this year 79% of females agreed (Table 36).

Table 36. %of all staff that agree or strongly agree with question in GES

	2013		2014		2016	
	male	female	male	female	male	female
I am encouraged and given opportunities to represent my Department externally and/or internally	82%	94%	79%	64%	83%	79%

(v)   Workload model

Describe any workload allocation model in place and what it includes. Comment on ways in which the model is monitored for gender bias and whether it is taken into account at appraisal/development review and in promotion criteria. Comment on the rotation of responsibilities and if staff consider the model to be transparent and fair.

There is a workload allocation model (WAM) for academic staff. The number of hours are recorded for teaching and the duties are recorded for administration. The decisions regarding the allocation of work take place in the summer led by the Director of Learning and Teaching and HoD in conjunction with staff. It was noted that there were issues with the way duties

staff are still less likely to be believe work is allocated on a fair basis than male staff (Table 37). The current workload model has been assessed by the New HoD in 2016 and a new model will be introduced in 2017 (**A7.5**).

Table 37. %of academic staff that agree or strongly agree with question in GES

	2013		2014		2016	
	male	female	male	female	male	female
In my Department work is allocated on a clear and fair basis irrespective of gender	84%	69%	79%	80%	82%	71%

A7.5	Ensure no gender bias in workload	a. Introduce new WAM in 2017 b. Review WAM yearly for gender bias c. Ensure workload for probationary staff monitored and adjusted as appropriate d. Review effectiveness of WAM in capturing workload

(vi)   Timing of departmental meetings and social gatherings

Describe the consideration given to those with caring responsibilities and part-time staff around the timing of departmental meetings and social gatherings.

The department has a policy that meetings are scheduled in core hours of 10 -14. Fab Friday happens every week at 10:30, and most of our social events are at lunch time. Females in the department agree that meetings/events are completed in core hours, however there has been a decline in the %male staff that agree in 2016 (Table 38). Closer analysis showed that a number of male staff were not aware of core hours. This will be added to the handbooks for admin staff and PDRAs and the department online handbook (**A7.6**).

Table 38 %of all staff that agree or strongly agree with question in GES

	2013		2014		2016	
	male	female	male	female	male	female
Meetings in my Department, are completed in core hours to enable those with caring responsibilities to attend	82%	88%	92%	76%	84%	94%

A7.6	Ensure department inclusive to flexible workers	Publicise core hours of 10 – 15 and meetings held between these times at staff meetings and in emails

(vii)   Visibility of role models

Describe how the institution builds gender equality into organisation of events. Comment on the gender balance of speakers and chairpersons in seminars, workshops and other relevant activities. Comment on publicity materials, including the department's website and images used.

We use female role models wherever possible for our events. Our ambassadors that volunteer for departmental events including our undergraduate visit days are 47% female (Table 5). The Faculty Open Days use CBE Engineering Ambassadors, of which typically a much higher proportion are female than male (Table 39). This is largely because females are more likely to engage in these types of activities than males.

Table 39. Faculty Engineering Ambassadors (CBE) 2013 - 16

International				Home	
UG male	UG female	PGR male	PGR female	UG male	UG female
1	6	1	3	1	5

Our Industry Talks sessions for undergraduates always include female role models and our research seminars include representation from external speakers (Figure 45). We also ensure that news stories in the department highlight male and female achievements.

Figure 45. Excerpt from Industry talks sessions showing participation of both male and female speakers.

> **Tomorrow** (4.11.14), from 1pm, Industry talks Oil & Gas theme, Ideas Space
>
> Foster wheeler, Tim Abbott & Emma Johnson
> Essar Oil, Mike Pearce
> AMEC, Jennie Topham (CBE Alumnus)

Our publicity material on our website and brochures includes many female role models as shown in sections. Conferences are hosted by the department, including the Advanced Biomanufacturing Centre conference with 140 international attendants from industry and academia in 2015 that highlighted the work of early career researchers through poster and showcase presentations: two prize winners were female (Figure 46).

Figure 46. CBE website news entry

The Faculty Women in Engineering website contains video interviews, photos and news stories for women across the Faculty and the Wall of Women page includes 3 female CBE students and 1 academic:
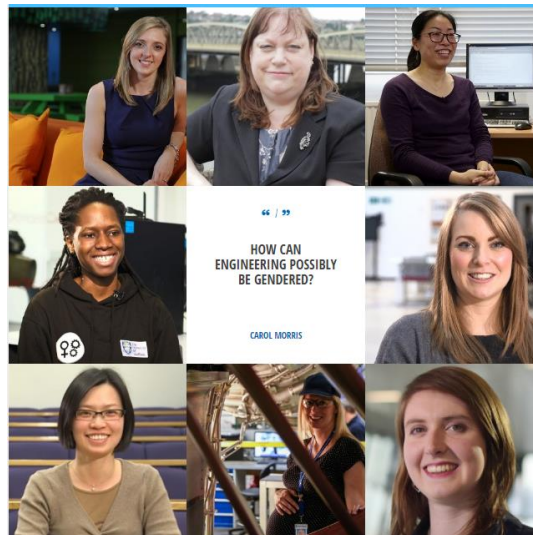

Figure 47. Wall of women http://wow.group.shef.ac.uk/

We had excellent visibility of role models through our two female Professors that both held important positions in the department. One comment in the staff survey: "I thought that Prof ---- was a fantastic female role model in the department and would have made an excellent long term HoD."

(viii)   Outreach activities

Provide data on the staff and students from the department involved in outreach and engagement activities by gender and grade. How is staff and student contribution to outreach and engagement activities formally recognised? Comment on the participant uptake of these activities by gender.

Many staff and students have put significant effort into developing hands-on taster activities designed to introduce children to chemical engineering; these include candyfloss, smells activity, coffee making, chocolate tempering, hand cream, extraction of DNA. Since 2013 we have contributed to 9 Faculty outreach events, including **Headstart**, University Options in Science, Maths and Engineering and Discover STEM for Girls. We also delivered 5 **Discover STEM** workshops to pupils selected for the programme in the Sheffield area. In 2015 we organised **the Engineering Imagination Event for Women in Engineering Day** and had significant departmental involvement with activities. Academic staff (male) contributed to **The Imaginarium** in 2016 (Figure 48). We envisage a continued lively contribution to all these events in the future and recently appointed a deputy Schools Liaison officer to help coordinate (**A7.7**).
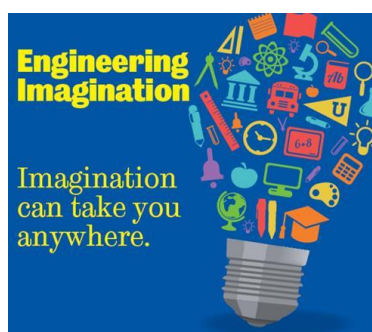
Figure 48. Image from the Women in Engineering Day

A7.7	Continue to promote Engineering and Academia as a career to GCSE/A-Level girls and young women	a. Advertise events in emails and staff meetings and record number of staff involved in outreach database (A7.8) b. Continue to help and encourage UG students to develop new activities to take into schools or deliver at outreach events c. Continue to run work experience placements for female school children in the department

Academic, PaS staff and PDRAs have worked to put together a **work experience placement** programme that follows all areas of departmental activity; this has led to at least one application to us for UG study; 5 students were taken in 2014 and 5 in 2015 which is a 500% increase each year on previous practice. UG students have taken outreach into primary

schools around Sheffield; to Brownies; groups of children/teens have visited the department via the Brathay Trust; Engineering Without Borders. PhD students in the Department organised and ran activities for National Science Week in 2015.

The **Women in Engineering Student Society** have created a children's book, *Suzie and Ricky - The Crash Landing*, to try and get children interested in engineering and help parents to understand what engineers do (Figure 49). CBE UG students were heavily involved in this project (the president and vice president at the time were both CBE students). Our new "Engineering Is" campaign was recently launched in the Houses of Parliament and one female academic and 5 female undergraduates from the department attended.
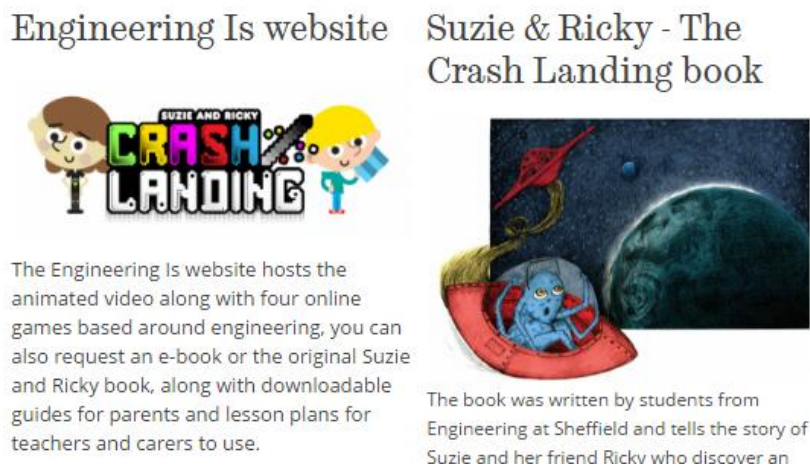
Figure 49. Images from the website advertising our "Engineering Is" campaign and engineering book for children.

A **committee** was set up to encourage and promote outreach including members of academic, PaS staff and PhD/UG students both male and female. The gender split of PGR and PDRA is shown below and reflects the usual split across all levels: we do find a higher proportion of females involved in these activities than male. Nevertheless we find it encouraging that male and female staff and students have been involved in all of these activities. We aim to have a better departmental monitoring system to help us determine the participation of activities by gender and also have a complete picture to help us celebrate CBE contributions to events and encourage staff to take part (**A7.8**).

Table 40. Numbers of PhDs and PDRAs taking part in outreach, recorded in the PGR and PDRA survey

Male PhD	Female PhD	Male PDRA	Female PDRA
3	4	2	3

Recognition: the UG students can include this on their HEAR. One of our female students that was actively engaged in outreach received the departmental award for her contributions – the Sarjant Prize for personal promise displayed during the course. Staff include this on the

SRDS form and it can contribute towards the decision to promote. Departmentally organised outreach activities are included in the WAM.

A7.8	Encourage staff and student participation in outreach activities and improve awareness	a. Set up outreach database in online departmental handbook and record activities and staff taking part b. Highlight participation in SRDS interview c. Promote and celebrate outreach activities on website and at department events: Fab Friday d. The Deal Awards to staff or departmental awards to students involved

Word count for Section 5: 6959

6. CASE STUDIES: IMPACT ON 2 INDIVIDUALS (1000 WORDS)

Dr Rachael Rothman, Senior Lecturer

I joined the department as a PhD student in 2003, progressed to PDRA in 2007, lecturer in 2009 and was promoted to senior lecturer in 2013. Throughout my time in the department I have received excellent career support and encouragement from many different sources.

I was encouraged by my line manager to apply for a lectureship in 2009 after only one year as a PDRA. During the first year of my probation I had a relatively high teaching and admin load and am very happy that changes have been made since by the HoD to support new lecturers. I took part in the Impact Mentoring scheme[6] and had mentoring meetings with a professor from another Engineering department. It was exceptionally useful to have input and perspectives from outside the department and I am still in touch with my mentor.

I led our successful Athena SWAN silver award submission 2011-2013. In summer 2014 the position of Faculty Director for Women in Engineering (FDWiE) became vacant. I was strongly encouraged to apply by the previous Director, the Pro Vice Chancellor and my HoD. I was successful at interview and 20% of my time is 'bought' by the faculty for the role. I sit on the Faculty Executive Board (FEB: PVC, 7 HoDs, 5 Directors) which has been both fascinating and fulfilling. I have presented numerous times at FEB to ensure engagement from the HoDs and have developed the new 5 year Faculty E&D Strategy. I set up and chair the Faculty E&D committee and also sit on the University Equality, Diversity and Inclusion Committee. The FDWiE role has given me great opportunity to develop and show leadership, incredible exposure to the wider university and it puts me in great stead for future promotion.

In Summer 2014, just after interviewing for the FDWiE role, I found out I was pregnant. I was apprehensive before my first meeting with the PVC as FDWiE, however he was both incredibly excited for me and very supportive. The department worked with me to develop a plan for during my maternity leave. I made use of Keeping in Touch days to meet my PhD students, attend meetings and to be involved in an FEB focus on WiE. With support from all line managers I had a phased return to work, coming back first 3 days a week and then 4. I continue to work 4 days a week now (paid 100%), using my accrued annual leave to have every Friday off, enabling me to take my son swimming. On return I successfully applied for WARP[7] funding and have been able to fund 2 PhD students for 4 months each to write journal papers. I also received funding from the department to attend two international conferences, enabling me to have a smooth transition back into research.

I have received invaluable mentoring and advice from within the department and faculty. My career development has been taken into account at every stage and I feel very proud to work in such a supportive department and faculty. **Word count: 517**

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[6] University mentoring scheme for female lecturers and PDRAs
[7] Women Academic Returners Programme

Case study 2

Dr Rachel Smith, Senior Lecturer, Member of SAT

I received my PhD from the University of Queensland in 2008 and completed a period as a PDRA at Monash University, also in Australia. I joined the department in February 2012 as a probationary lecturer, passed probation in September 2015, and was recently promoted to Senior Lecturer.

My first probation advisor, a female professor in my department, was a great help to me in the first year of my probation period. We had regular monthly meetings, and she provided excellent advice on balancing my workload, and writing and submitting grant applications. In particular, I found the advice and support on preparing a grant application incredibly helpful. When my advisor went on maternity leave, my new advisor was another female professor in my department. The support I received from this advisor was more formal and structured than my previous advisor, but also very helpful. I found the meetings constructive, and she was a great advocate for me in my annual probation progress meetings with the HoD.

My probation experience was overall positive. The probation targets enforced by the faculty placed pressure to perform, and this pressure was not always helpful however the support I received from my department enabled me to reach those targets.

I was awarded a Royal Society Industry Fellowship in 2015, and due to this was then invited to join the University's First Grant and Fellowship Network in September 2015. This network aims to "support the development of future leaders and embed interdisciplinary research", and provided a myriad of training opportunities, including workshops such as media training, networking skills, and successful grant writing. This has been a great opportunity to learn new skills, and also form a network of peers throughout other faculties in the University. This one year programme is now completed, however we are still invited to training events held for the new cohorts.

In 2016 I considered applying for promotion, and was encouraged by colleagues in the department to do so. I discussed this with my HoD, who supported me to apply and I was successful in being appointed Senior Lecturer. In preparing to apply, I received a lot of advice on how to best state my case in my CV, and senior colleagues in my department read and provided comments on my CV. This was enormously helpful.

In July 2016, I started the role of Director of Student Support (DoSS) in the Department. This role includes membership of the department executive committee, and I have enjoyed being a part of the decision making process in the department. This role involves ensuring good student experience, and being a contact point for students who are struggling with non-academic issues. Adopting this role has been a challenge, however I have had enormous support, both from the former DoSS, peers in the department, senior colleagues and the HoD.

Overall, my experience at Sheffield has been very positive, and I feel that I have support and guidance at several different levels within the department.

Word count: 495

7. FURTHER INFORMATION
None

TOTAL WORD COUNT: 12800

8. ACTION PLAN

LIST OF ABBREVIATIONS

CBE	Chemical and Biological Engineering
HoD	Head of Department
DAA	Department Academic Advisor
DAM	Department Administration Manager
DTM	Department Technical Manager
GES	Gender Equality Survey
L	Lecturer
OC	Opportunities Committee
P&E	Professor and Emeritus Professor
PaS	Professional and Support
PDRA	Postgraduate Research Associate
PGR	Postgraduate Research
PGT	Postgraduate Taught
R	Reader
SAsT	Self-Assessment Sub Team (see Figure 1)
SL	Senior Lecturer
SRDS	Staff Review and Development Scheme
SUT	Senior University Teacher
UG	Undergraduate
UT	University Teacher
WAM	Workload Allocation Model

Key Future Aims:

- To increase intake of home, female postgraduate researchers by 50% each year from 2017 (A2.4, A2.5, A7.7, A7.8)
- To increase our %female of research staff to 30% by 2020 (A3.1 – A3.4)
- A coherent and supportive environment for all staff by improving awareness of policies (A5.1, A5.2, A6.1, A7.2)
- Ensure that females achieve their maximum potential through the fair distribution of work (A4.3, A7.5)

1. Self-Assessment Process: capturing information accurately; raising awareness					
Aim	**Progress to Date**	**Actions**	**Who**	**When**	**Measure of Success**
A1.1 Ensure balanced and diverse membership of OC that gives a voice to everyone in the department	2016 OC includes reps at different career stage and work-life balance and a UG student; a male PDRA would be beneficial	a. Monitor membership of OC and check gender balance as well as range of other factors including ethnicity, experience, mode of working	OC SAsT	Review annually from Dec 2016; when a member leaves or membership rotated	Balanced representation of staff and student groups i.e. male and female where possible, reflective of composition of department
		b. Rotate membership after 3 years and recruit new members to positions before previous ones leave to facilitate handover	All OC		List of members included on departmental handbook by Dec 2016 and membership rotated by Dec 2019
		c. Include male PDRA	OC SAsT	Jan 2017	Male PDRA representative on OC by end Jan 2017
A1.2 Ensure recognition of contribution to OC	Time is allocated in the current department WAM and should be present in the new WAM and discussed in SRDS meetings	a. Include time commitment of OC in new WAM	HoD/ Director of Teaching	July 2017	Membership of OC included in WAM from July 2017
		b. Include time commitment in SRDS form and discuss contribution at SRDS meeting with line manager	All OC	July 2017 then annually	Staff recognition of time on OC at SRDS from July 2017

Aim	Progress to Date	Proposed Actions	Who	When	Measure of Success
A1.3 Ensure the role of staff invited to take part in the GES is known	The role of staff was recorded in GES for those that responded but there is uncertainty in response rates because of staff that didn't respond	Obtain the list of staff on the email list used for invitation to the survey and check roles	Champion	With surveys in June 2017, then annually	List of staff invited to participate in survey along with survey results and response rates accurately calculated from June 2017
A1.4 Increase response rate of staff and PGR students on gender equality survey (GES)	The 2016 survey response rates were: 73% of Academics; 69% PaS; 49% PGR; 60% PDRA	a. Revise current GES with separate sections for Academic and PaS; review questions on PGR and PDRA survey to ensure they are relevant b. Advertise GES and separate PGR and PDRA survey by email and in staff meetings c. Encourage staff and PDRAs to complete survey by discussion with OC reps	All OC Champion/Secretary of OC All OC	May 2017 and review in May 2018 June 2017, then annually June 2017, then annually	Increased response rates to >80% on GES and >70% on PGR and PDRA survey in 2017 and >90% on GES and >80% on PGR and PDRA survey in 2018 and 2019
A1.5 Increase awareness of gender equality issues and Athena SWAN Cont. over page	In 2016 GES, 66% of staff reported that they were informed of gender equality matters. GES report was sent to all staff and highlighted in staff meeting	e. Analyse results of surveys at OC and Exec meetings and compile report f. Report on surveys sent to all staff and highlighted at staff meeting	Exec/all OC Champion	August 2017 then annually Annually after August	>80% of staff report informed of gender equality matters in GES in 2017 and >90% of staff report informed of gender equality matters in GES in 2018

Aim	Progress to Date	Proposed Actions	Who	When	Measure of Success
A1.5 cont. Continue to raise awareness of gender equality issues and Athena SWAN	Athena SWAN issues and Action plan discussed at staff meetings in 2016	g. Record progress on Action plan in online spreadsheet on departmental handbook and highlight at staff meetings	Champion	December 2016 then every other staff meeting	Progress towards Athena SWAN actions recorded in departmental handbook every 3 months from March 2017
		h. Update departmental website with information related to gender equality issues	Marketing and Communications officer	February 2017, then review annually	Department website up to date on gender equality matters by March 2017 and updated in March 2018 and 2019
A1.6 Share good practice at Faculty and University level	Champions attended Faculty level meetings every two months to discuss previous actions with other Champions in 2016	Attend Faculty and University Athena SWAN meetings to: c. Take on board good practice from other departments d. Disseminate new actions that have been successful	Champions	At meetings every two months from Feb 2017; Disseminate more widely in 2018/19 i.e. national meetings	Action plan updated to reflect new good practice that can be implemented in CBE from March 2017 Other champions report use of successful CBE actions in 2018 meetings to CBE Champion

2. Students: capturing data, maintaining good gender balance; ensuring success; increasing home female PGRs					
Aim	**Progress to Date**	**Actions**	**Who**	**When**	**Measure of Success**
A2.1 Maintain %female of total UG students Cont. below	In the past 3 years, the average %female of UG students was 33% compared to 26% nationally	a. Monitor UG application (including foundation year) and entry data by gender and determine %female of cohort	Admissions Tutor	September 2017 then annually; review each year	The %female of UG students >33% (or 5% above the national average, whichever is higher)

Aim	Progress to Date	Actions	Who	When	Measure of Success
A2.1 cont. Maintain %female of total UG students	Website and publicity material was monitored annually. We are in the process of a major overhaul of our brochures and website to be completed in 2017.	b. Check there is a good gender & ethnicity balance in all new student marketing and advertising materials	Director of Marketing and Recruitment	July 2017 or when new material is produced	Publicity material shows good gender balance for 2017 – 2020 with >40% females across images
		c. Perform UG entry survey to determine reasons for choosing us and ensure those activities continue	Personal tutors	October 2017 in first tutorial	Results of survey taken into account by admissions team
	Last UG focus group took place in 2014.

%female ambassadors on open days is typically 50% | d. Hold focus group with 10+ female UG students to discuss marketing material and activities | Champion | October 2017 review in Oct 2018 | UG focus group held within first five weeks of term

Positive feedback from focus group and other female UGs regarding marketing material and recruitment activities in 2017 or amended activities in 2018 |
| | | e. Run friendly open days with 50% female ambassadors: recorded by admissions team | Admissions Tutor | Open days scheduled for June each year | Open days run 50% female ambassadors |
| **A2.2** Ensure our female UGs continue to complete and perform as well as males | In the past three years, on average 72% of females and 75% of males obtained 2.1 or 1st | a. Determine final year performance by gender to find whether females and males perform equally well | Student support office | Analyse 2016 data in February 2017, then monitor annually | Same proportion of females and males achieve 1st and 2.1 |

Aim	Progress to Date	Actions	Who	When	Measure of Success
A2.2 cont. Ensure our female UGs continue to complete and perform as well as males	In the past three years, 1.3 females and 6.3 males left per year 75% of female leavers gave academic reasons	b. Determine numbers of leavers by gender and determine reasons for leaving c. Highlight buddy/mentoring opportunities **d.** Determine first year performance in exams and introduce more academic support in personal tutor sessions if necessary	Year Tutors Director of Student Support Student Support Office	July 2017 and annually Sept 2017 January 2018 February 2018 and review in Sept 2018	Numbers of leavers recorded and reasons for leaving known in 2017 and each year after Reduce female leavers with academic issues to 25% by 2018/2019
A2.3 Increase our % female of total PGT students Cont. over page	In the past three years, %female of total PGT was 32% compared to national proportion of 26%. On individual programmes: EEE = 37%; BBE = 56%; PSLP = 23%. In 2015, 30% of our female PGTS were on PSLP so an increase of 9% from 23% to 35%female on PSLP would mean a 3% increase overall.	a. Determine application and entry baseline data to all PGT programmes by gender b. Ensure a good gender & ethnicity balance in all student marketing and advertising material and update material with information from female alumni, particularly on PSLP c. Run a focus group with 5 female PGT students on PSLP to discuss what attracted them to course	Admissions Tutor/programme manager Marketing and Recruitment team Careers officer	Sept 2017, then annually July 2017 then review every year Oct 2017	%female of total PGT is 35% by 2019: increase of %female on PSLP to 26% in 2017, 29% in 2018 and 32% 2019 (i.e. 9% increase on PSLP in 3 years) Publicity material shows good gender balance, >40% female in images, and updated profile from female alumni by Sept 2017 Feedback from focus group in July 2017 feeds into activities in 2018

Aim	Progress to Date	Actions	Who	When	Measure of Success
A2.3 cont. Increase our % female of total PGT students	Website was updated annually and scholarship offered	d. Continue to offer scholarship to female PGT and advertise on PSLP material e. Review success of actions each year and amend if necessary	Director of Marketing and Recruitment Champion	Sept 2017 then annually Annually	Female student takes up PGT scholarship in 2017 and each year for PSLP course Actions updated following feedback
A2.4 Maintain our %female of total PGR students	In the past 3 years, the %female of total PGR was 40% compared to national average of 33%. PhD open days held with >50% female ambassadors	a. Determine application and entry baseline data by gender b. Ensure a good gender & ethnicity balance in all student marketing and advertising material c. Hold PhD open day with 50% female ambassadors and numbers recorded	Admissions Tutor Marketing and recruitment team Faculty recruitment team	June 2017, then annually Jan 2017 and review in Jan 2018 Summer 2017 every year	%female of total PGR total >40% in 2017/2018 intake and each year after Good gender balance in all material by Feb 2017 and thereafter Open day held in 2017 and each year
A2.5 Increase the home female intake on our PGR programmes	In the past 3 years, the average intake of home female PGR students was 4 per year where-as the international female intake was 11 per year Applications from international students now may be on the decline	a. UG careers survey (years 2 and above) to find out reasons for choosing/not choosing academia: revise actions if particular issue b. Provide more information on academic careers in undergraduate programme c. Hold academic careers sessions with female PGRs and UGs	Careers Officer/ Personal Tutors Careers Officer PGR Tutor/OC or PGR reps	Feb 2017 then annually Sept 2017 then review in Jan 2018 Feb 2017 and annually	Home female intake PGRs increased by 50% each year from 4 to 6 females in 2017; 9 females in 2018 and 13 females in 2019 More information on academic careers and new careers sessions held by Sept 2018

3. Staff: capturing data, increasing female academic and research staff

Aim	Progress to Date	Actions	Who	When	Measure of Success
A3.1 Increase %female of academic staff	There has been an increase in the past 3 years from 18% to 26% female compared to 27% national average in Chemical Engineering in 2014; there are currently no plans to recruit new academics in the next few years In 2016, 50% of male staff and 65% of female staff had undertaken UB training	a. Determine number of applications and number of acceptances by gender to check for biases in recruitment process; if biases found then obtain interview transcripts to examine reasons b. Ensure all staff undertake unconscious bias training (monitor uptake)	Department recruitment officers/ Champion All staff	When positions are posted from now to 2020 Training available through 2017 and 2018	%female of academics is 30% or greater by 2020 if new positions available 100% uptake rate of unconscious bias training
A3.2 Increase proportion of female applications to academic positions Cont. over page	In the past 3 years, 24%of total applications for academic positions were female	a. State commitment to flexible working opportunities, equality and diversity, and include Athena SWAN logo on all job adverts b. Targeted advertising in places women look for jobs e.g. Women's Engineering Society	HR All line managers	When jobs are posted from now to 2020 When jobs available from now	%female applications to academic positions increased to 30% of total by 2020 if new positions available Adverts placed

Aim	Progress to Date	Actions	Who	When	Measure of Success
A3.2 cont. Increase proportion of female applications to academic positions	In PRDA survey in 2016, 45% of our female PDRAs were undecided about career path in academia	c. Target talented PDRA females through colleagues or discussion with potential candidates at other universities, events, conferences etc	All staff	From July 2017	%female applications to academic positions increased to 30%
		d. Determine reasons for PDRA staff not choosing academia (PDRA survey)	Champion	July 2017 then review actions for 2018	Report on reasons for PDRA not choosing academia for discussion at OC in August 2017; introduce new actions in 2018
	Main reason for PDRAs leaving is end of contract	e. Monitor number of PDRA leavers (of the University) by gender and reason for leaving from exit interview or online leavers form and revise actions if necessary	Champion /HR	August 2018	Reason for leaving determined and actions revised
A3.3 Increase the %female of PDRAs	In the past 3 years, the average % female of total PDRAs was 21%, but on the increase	a. Target talented PhD level females through colleagues or discussion with potential candidates at other universities, events, conferences etc	All staff	When positions are posted from now to 2020	%female of PDRAs is greater than 30% by 2020
		b. Monitor recruitment data to check for biases: %female of total is not the same at application to interview to success stage, then determine reasons and revise actions	HR	June 2017	%female at each stage determined; actions revised if necessary by end of 2017
		c. Organise Engineering academic careers day for PGR students with prominent female speakers	PGR tutor	August 2018 then annually	Careers day held in 2018

Aim	Progress to Date	Actions	Who	When	Measure of Success
A3.4 Increase success rate of PDRAs at interview stage	In the past 3 years, the % female of applications was 28% and success at interview stage was 26%	a. Determine reasons for female staff not being appointed to PDRA positions after interview process in transcripts b. Encourage interview training and monitor in SRDS	Champion Line managers	June 2017 Ongoing	% female of total successful at interview stage for PDRA positions reflects %female of applications by end 2018
A3.5 Check for gender bias in PDRA contract type: open ended or fixed term	In 2015, 2 female researchers are open ended whereas 8 males	Determine research staff contract type by gender and reasons why %female on open ended contract is not same as %female on fixed term	HR	Dec 2017 and annually	Review of numbers of females and males on open ended or fixed term contracts from Dec 2017 and new action if bias found

4. Key Career Transition Points: ensuring female success at all stages of academic career					
Aim	**Progress to date**	**Actions**	**Who**	**When**	**Measure of Success**
A4.1 Improve induction of PDRAs into the department	In 2015, the focus group reported that induction of PDRAs into the department could be better: there is no induction booklet In PDRA survey, 52% of PDRAs reported ERS membership	a. Introduce induction checklist and printed department handbook for PDRAs b. Encourage PDRAs to be active in Faculty Engineering Researcher Society (ERS)	PDRAs on OC/Champion PDRAs on OC	Feb 2017 and review in Feb 2018 When new PDRAs start in 2017	Induction booklet by March 2017 Increased membership to >75% determined by 2018 PDRA survey

Aim	Progress to date	Actions	Who	When	Measure of Success
A4.2 Improve understanding of promotion and SRDS process	In 2016 GES, 66% of male staff and 66% of female staff reported understanding promotion process	e. Encourage all staff to undertake SRDS training and monitor uptake	HoD/DAM	June 2017	>75% staff understand promotion and SRDS in GES 2017; > 85% in 2018, and > 95% 2019
		f. Raise awareness of promotion process in emails and at staff meeting	OC champion	December 2016	
		g. Increase information in department handbook on SRDS	HoD/DAM	June 2017	Included links to training information by June 2017
		h. Celebrate success at Fab Friday and by emails	HoD	Every month from Dec 2016	Success celebrated each month
A4.3 Ensure female researchers are able to produce quality research publications	In REF2014, 17% of total staff included were female	a. Discuss barriers to publication with mentors and SRDS and remove	Probation mentors/ Line manager/ other mentors	July 2017, then annually	Females reporting no barriers to ability to publish in SRDS
		b. Ensure female researchers are involved in REF discussions	Line managers/ HoD/ Director of research	Jan 2017 research away day and all other research meetings	All female researchers are included in REF2020

5. Career Development: ensuring success of all female staff

Aim	Progress to date	Actions	Who	When	Measure of Success
A5.1 Increase awareness of training available to all staff	In 2016 GES, 81% of academic and research staff report awareness of training available	a. Include more information on training in the SRDS forms and highlight to males in SRDS b. Send email on training and discuss at staff meeting/ teaching away days	HoD/Line managers HoD/ Champion	July 2017 Next teaching away day in June 2017	In 2017 survey, >90% of academic and research staff report awareness of training opportunities in GES
A5.2 Improve awareness of mentoring schemes	In 2016 GES, 71% of male staff and 69% of female academic and research staff reported provision of useful mentoring opportunities and analysis of data showed that some staff were not aware of schemes	a. Determine uptake of academic and research staff on mentor schemes b. Inform PDRAs of Department Academic Advisor role c. Encourage uptake of mentoring schemes in SRDS and by advertisement by email/staff meetings d. Run mentor focus group with female PDRAs and female PaS	HR/OC PDRAs on OC/ DAA HoD/line managers OC Champion	April 2017 December 2016 July 2018 January 2018	>90% of all staff aware of mentoring opportunities by 2017 GES and more accurate knowledge of uptake in 2017. 10% increase in proportion of uptake on mentoring schemes in 2019. Awareness of schemes in improved in PDRA survey and GES in 2018
A5.3 Ensure PaS are aware and encouraged to take up career development opportunities	In 2016 GES, 71% of male PaS and 91% of female PaS report awareness of training available	a. Provide information on career development in SRDS form to remind PaS staff b. Encourage staff in SRDS and also at departmental meetings/ away	OC Champion HoD/ Line managers	July 2017 July 2017 and then annually	More than 91% of PaS male staff aware of career development opportunities for PaS in GES 2017 and >95% female; >95% all PaS from 2018

		days to take up career development			

6. Flexible Working: improving awareness

Aim	Progress	Actions	Who	When	Measure of Success
A6.1 Continue to promote flexible working policies, maternity/paternity leave and career breaks	In 2016 GES, 79% of staff reported that they were aware of gender equality policies; no specific question on flexible working policies Some staff include working hours in email	e. New question in GES on awareness of flexible working policies f. Include information in SRDS form g. Send information by email and staff meeting and include policy or links on departmental handbook h. Ask staff to include hours in their email signatures	HoD HR Champion/OC Champion	July 2017 July 2017 Dec 2016 and updated in Dec 2017 and 2018 Feb 2017	>90% awareness of policies on flexible working determined by GES questions in 2017 and >95% in 2018 and 2019 Policies included in online handbook and updated each year All flexible hours included in emails or reasons why not determined and revised action

7. Organisation and Culture: improving inclusivity

Aim	Progress to date	Actions	Who	When	Measure of Success
A7.1 Ensure department continues to be considered an inclusive environment	In 2016 GES, 97% of staff reported welcoming environment at social events In 2016 survey, 92% of PDRAs and 71% of	a. Emails sent each week encouraging staff and PGR to attend Fat Friday b. Continue to improve social aspects of department by arranging department wide gatherings and events eg sporting event in summer	Staff volunteers OC	December 2016 From June 2017	Staff continue to feel welcome in the department: >97% in GES in 2017 >92% of PDRAs and >75% of PGRs attend social events in 2017: determined in surveys

	PGR attended a social event	c. All PDRAs and GRAND representative invited to staff meeting	HoD	June 2016: ongoing	>95% PDRAs in 2018/19 and >80% PGRs in 2018 and >90% of PGRs in 2019
Aim	**Progress to date**	**Actions**	**Who**	**When**	**Measure of Success**
A7.2 Improve visibility of departmental policies concerning gender equality	In 2016, 79% of staff reported department had made policies on gender equality clear	a. Increase information in department handbook by adding sections with links to University equality pages on policy regarding harassment b. Inform staff of policy updates via email and staff meetings	OC champion HoD	December 2016 and update annually From January 2017 and at all staff meetings	>85% staff report awareness of policies relating to gender equality determined in GES in 2017; >90% in 2018 and >95% in 2019 Gender equality policies in handbooks
A7.3 Improve confidence of staff regarding department dealing with harassment	In 2016, 84% reported confidence in line manager dealing with harassment	a. Include links to policies on relevant documents including departmental handbook and discuss at staff meeting b. Include policies in PDRA handbook and PaS handbook	Champion PDRA reps/ Champion	December 2016 and every two months March 2017 and update annually	>85% confident on line manager dealing with harassment in 2017 GES and >90% confident in 2018 GES Policies on harassment included in handbooks from March 2017
A7.4 Ensure good gender balance on departmental committees	Overall gender split is 36% female on department committees which is reflective of department %female of total however Safety Committee is mainly	a. Monitor committee membership on yearly basis and ensure %female reflects %female in department overall, but also on individual committees where possible b. Membership and minutes of all committees sent to staff by email and online handbook	HoD/ Director of Learning and teaching HoD/Cham pion	June 2017, then checked in 2018 December 2016 and updated monthly	Balanced representation of staff and student groups i.e. male and female where possible, reflective of composition of department from June 2017 Membership and minutes included in online handbook from Jan 2017

| | male and OC is mainly female | c. Rotation of staff on committees | HoD/ Committee chairs | From July 2017 | |

Aim	Progress to date	Actions	Who	When	Measure of Success
A7.5 Ensure no gender bias in workload	In 2016 GES, 82% of men whereas 71% of women reported that work was allocated in a clear and fair basis	a. Introduce new WAM in 2017 b. Review WAM yearly for gender bias and redistribute work if staff report unfair in SRDS c. Ensure workload for probationary staff monitored and adjusted as appropriate d. Review effectiveness of WAM in capturing workload; amend WAM if staff report it does not reflect workload	HoD/ Directof teaching Staff/ Director of teaching Probationary staff/ advisor All staff/ Director of teaching	July 2017 July 2017 and annually August 2017 then annually September 2017 and then Sept 2018	Fair proportion of admin/teaching and research tasks by gender and career stage reported in SRDS >85% of all staff report that WAM reflects workload in GES 2017/18 and >95% of all staff report that WAM reflects workload in GES 2018 and each year thereafter
A7.6 Ensure department inclusive to flexible workers	In 2016 GES, 89% of staff reported that meetings were completed in core hours	Publicise core hours of 10 – 14 and meetings held between these times at staff meetings and in emails	HoD, DAM	Staff meeting in Dec 2016; every 6 months	100% of staff aware of core hours and report that meetings are completed in core hours in GES 2017
A7.7 Continue to promote Engineering and Academia as a career to GCSE/A-	Staff reported taking part in events for children including Headstart, Women in Engineering Day, The Imaginarium in	a. Advertise events in emails and staff meetings and record number of staff involved in outreach database (A7.8)	Schools Liaison Officer/ Outreach Team	From February 2017 and ongoing	Numbers of staff involved in events recorded in 2017 and increased in 2018

Aim	Progress to date	Actions	Who	When	Measure of Success
Level girls and young women Cont. over page	2015 to outreach team.				
A7.7 cont. Continue to promote Engineering and Academia as a career to GCSE/A-Level girls and young women	The Women in Engineering Student Society created a children's book, *Suzie and Ricky - The Crash Landing.* Two school activities were developed by UG students in 2015 5 children per year do work experience placements	a. Continue to help and encourage UG students to develop new activities to take into schools or deliver at outreach events b. Continue to run work experience placements for female school children in the department	Admissions Officer Admissions Officer + other staff	Spring term 2017 and again in 2018 May 2017 then annually	Two new activities by June 2017 and 2 more by June 2018 Work placements in June 2017 and annually for 5 children
A7.8 Encourage staff and student participation in outreach activities and improve recognition	Staff take part in outreach events but not recorded in one place; 7 PhDs and 5 PDRAs reported taking part in outreach in surveys in 2016 One of our UG students received a prize for her	a. Set up outreach database in online departmental handbook and record activities and staff taking part b. Highlight participation in SRDS interview c. Promote and celebrate outreach activities on website and at department events: Fab Friday	OC Champion/ All staff involved HoD	Feb 2017 then monthly; check suitability in Feb 2018 July 2017 then annually Monthly	Numbers of staff taking part in outreach known in Dec 2017, numbers increased by Dec 2018; Increase to 10 PGR and 8 PDRA taking part in outreach by Dec 2017 Celebration of achievement at Fab Friday and with increased Deal awards/student awards in 2017/ recognition in SRDS

	contribution to outreach	d. The Deal Awards to staff or departmental awards to students involved	Nominations from year tutors/ line managers	From July 2017; then each month	