



## **Athena SWAN Silver department award application**

**Name of university: Cardiff University**

**Department: Cardiff School of Engineering**

**Date of application: 30 November 2012**

**Date of university Bronze and/or Silver Athena SWAN award: 2009**

**Contact for application: Professor Nick Jenkins / Dr Liana Cipcigan**

**Email: CipciganLM@cardiff.ac.uk**

**Telephone: 029 2087 0665**

**Departmental website address: <http://www.engineering.cf.ac.uk/>**

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

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

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

### **Sections to be included**

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

## **1. Letter of endorsement from the head of department: maximum 500 words**

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

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

**Accompanying letter attached.**

## **2. The self-assessment process: maximum 1000 words**

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

The self assessment team was established in 2009 by the former Director of School, Professor Karen Holford. It presently has 15 members and is led by the current Director of School (DoS), Professor Phil Bowen. It includes a broad cross-section of staff from the School; members are at differing stages of their careers and have a range of management responsibilities. There are postdoctoral researchers, academic staff from the 3 teaching disciplines (Architectural, Civil and Environmental Engineering (ACE); Electrical and Electronic Engineering (EEE); Mechanical, Manufacturing and Medical Engineering (MMM) and administrative & managerial staff.

The team benefits from membership of the School's Strategy Group - through the Director of School, Deputy Director (Research and Innovation), Deputy Director (Staff) and the School's Strategy Advisor - which has authority to transfer Athena values into policies. Moreover, the self assessment team has been split into an executive group (responsible for dealing with policy decisions and other major issues) and a wider support team (to provide advice and assist with the implementation of actions across the School).

The executive group includes:

**Professor Phil Bowen**, Director of School with effect from 1 October 2012.

**Professor Karen Holford**, Pro-Vice Chancellor Head of the College of Physical Sciences and Professor of Mechanical Engineering. Professor Holford is a founding member of WISE in Wales Committee, was the recipient of the Welsh Woman of the year in Science and Technology (2006) and was awarded the WISE Excellence Award for her contribution to engineering and long term commitment to supporting girls and young women in science and engineering (2007).

**Professor Nick Jenkins**, Institute Leader for the Institute of Energy (EEE), the School's Strategy Advisor and Equality Champion. Nick has served as a member of the Royal Academy of Engineering's Equality and Diversity committee.

**Professor David Kennedy**, Deputy Director – Staff (ACE), Chair of the Staff Executive Committee and a member of the University's Staff and Diversity Policy Network.

**Dr Cathy Holt**, Reader (MMM), Chair of the School's Equality and Diversity Committee, a member of School Board and University Athena Swan Steering Group.

**Dr Liana Cipcigan**, Lecturer (EEE), Co-Chair of Equality and Diversity Committee, a member of the University's Athena Swan Steering Group and an elected member of School Board. She is a Postgraduate Research Tutor and Year in Industry tutor.

**Mrs Gaynor James**, School HR Officer.

**Ms Isabella Santamaria**, University's Equality and Diversity Manager.

The Support Team includes:

**Professor Adrian Porch**, Deputy Director - Research and Innovation (EEE)

**Dr Michael Packianather**, Senior Lecturer (MMM) and Admissions Tutor for MSc Advanced Mechanical Engineering.

**Dr Bettina Bockelmann-Evans**, Senior Lecturer (ACE), member of School Board and the Innovation and Engagement Committee.

**Dr Catherine Wilson**, Senior Lecturer (ACE), Co-Director of the Hydro-environmental Research Centre and Unfair Practice Co-ordinator for the School.

**Dr Richard Perks**, Senior Lecturer (EEE), Admissions Tutor and a member of the School's Equality and Diversity Committee.

**Dr Gemma Whatling**, Cardiff Research Fellow (MMM), a member of the Cardiff Institute of Tissue Engineering and Repair Research Committee and the ENGIN Female Researchers Network. Dr Whatling is a Committee member of WISE in Wales and Council Member (Student Lead) for the Women's Engineering Society (WES).

**Dr Samantha Jones**, Academic Administrator, Disability Contact, and a member of the Extenuating Circumstances Panels, and Equality and Diversity Committee.

The self-assessment team has extensive experience of balancing work and external commitments. A significant majority are from dual career households and more than half have childcare responsibilities, whilst several members also have responsibilities caring for elderly relatives. Members of the team have had experience in making use of the School's flexible working policies or have worked part-time. Others have benefited from the School's research leave policy and a number have recent experience of the promotion process.

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

In preparing this submission the full self assessment team met on a monthly basis between April and November 2012. At the first meeting team members were allocated specific duties which required a review of the data and consideration of existing initiatives and possible future actions. Subsequent meetings were used to discuss findings and provide support in drafting the submission.

Team meetings also addressed the opinions of staff within the School. These were collated in 2010 in a cultural analysis survey that the School commissioned on workplace culture and awareness of gender, equality and diversity. The findings and recommendations have since been used to inform actions taken by the School and continue to channel policy development (see subsequent sections).

Furthermore, in April 2012 members of the self-assessment team visited the Faculty of Engineering at Nottingham University (awarded Silver in April 2012) to discuss the Athena Swan application process. The meeting proved invaluable in terms of providing advice and was a useful opportunity to discuss previous applications, best practice and case studies. Additionally in May 2012 Professor Averil MacDonald, visited the School to discuss Athena Swan and the application process. This afforded helpful ideas on the School's submission and possible future actions.

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

This application process has been extremely useful not only in reviewing the School's current position but also in providing a focus for the future. To ensure the effective implementation of the action plan, the executive group will meet every six weeks to deal with issues surrounding data monitoring, communication and to address policy issues. The wider self-assessment team will also meet on a quarterly basis and will report to the School Board via the Equality and Diversity Committee. These meetings will be used to review and update the action plan as well as to discuss issues and new initiatives.

In addition the team will commission an updated Cultural Analysis survey to determine the success of initiatives that have already been implemented in the School over recent years. The self-assessment team will continue to engage with all staff through regular briefings at staff assemblies and through ongoing poster campaigns.

**Section 2 word count 964/1000**

### **3. A picture of the department: maximum 2000 words**

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

Cardiff University has recently restructured to a College management structure whereby the 27 Schools across the University are represented by 3 Colleges. Cardiff School of Engineering belongs (along with 6 other Schools) to the College of Physical Sciences which is led by Professor Karen Holford (previous DoS at Cardiff School of Engineering).

The School is an integrated, research-led School encompassing the main engineering disciplines. Its vision is to become a top 5 UK, top 100 world-wide Engineering School by 2015, by undertaking

internationally-leading research and providing education of the highest quality, underpinned by the ability to attract outstanding students and staff.

In October 2012 Professor Phil Bowen was appointed the Director of Cardiff School of Engineering which is the fourth largest School in the University, comprising 92 academic (15% female), 72 research (17%) and 100 support staff (36%). Of the total of 1500 students, 1190 are undergraduates (18% female) and 310 postgraduates (17%), of whom about 75% are resident within UK/Europe. The proportion of female UG entrants has risen from 12% to 18% during 2007-2011.

Research is organised around seven institutes providing a framework to support multidisciplinary, collaborative research. Research excellence was evidenced by the School's top 10 UK position in the 2008 Research Assessment Exercise, with > 97% of research deemed "internationally recognised" and > 90% of academic staff included in the School's submission. Of the 65 (FTE) staff returned, 9 (i.e. 14%) were female. The School prides itself on the high quality of its research-led teaching. Latest student satisfaction rates ranged from 91% to 95% across the undergraduate programmes (NSS 2012), placing Cardiff in the top-5 Engineering Schools within the Russell Group.

Equality and Diversity is an important mainstream activity within the School to ensure staff wellbeing. This is managed by its Equality and Diversity committee and is a standard item on all School meeting agendas. It has a broad range of publicity and engagement programmes with the community to promote Engineering as a career, organising hands-on workshops for teenage girls ("Dragonfly Days"), residential summer schools, and the Discover! Club for young women on Saturday mornings.

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

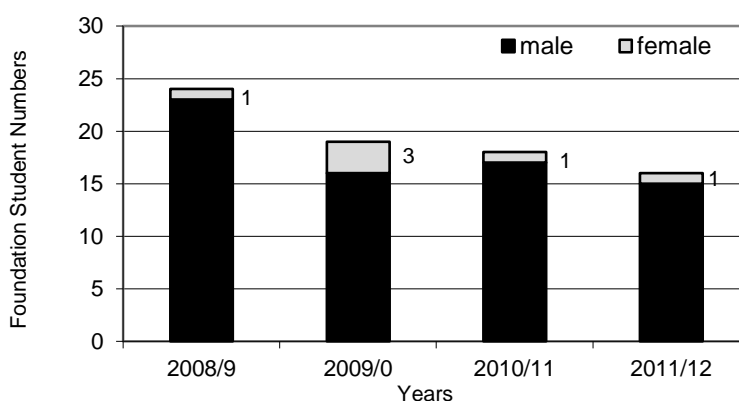
#### **Student data**

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

The School runs a formal access programme, the Foundation Year, which is designed to attract applicants without A-level Maths to enter an Engineering programme. Numbers are not large and vary annually (Figure 1), and it would therefore be unreasonable to conclude that there are significant trends. However, it is considered to be a valuable source of students with potential, who perhaps did not have the opportunity to gain the standard entrance requirements

Initiatives taken to attract female applicants are the same as for the undergraduate programmes listed below.

**Figure 1** Male and female numbers on the Foundation course



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

**Table 1** Undergraduate HE students: Female proportion of Full-person equivalent

	% Female					
	2008-09		2009-10		2010-11	
	Cardiff	UK	Cardiff	UK	Cardiff	UK
<b>Civil Engineering</b>	19.3	17.6	19.6	18.3	19.6	18.5
<b>Mechanical Engineering</b>	8.1	8.4	11.0	8.7	9.5	8.6
<b>Electronic and Electrical Engineering</b>	11.1	11.7	13.5	11.7	10.2	12.0

(HESA Data, Source: HEIDI)

The proportion of female undergraduates varies by course and is consistently higher than the national average in Civil Engineering (ranging from 19.3-19.6% compared to 17.6-18.5 for UK Total) and Mechanical Engineering (ranging from 8.1-11.0% compared to 8.4-8.7% for UK Total) and very similar to the national average in Electronic and Electrical Engineering (ranging from 10.2-13.5% compared to 11.7-12.0% for UK Total) – Table 1.

The School strives to attract outstanding female candidates by ensuring good visibility of female staff and students in recruitment literature, on webpages and at open days. Recent events and

initiatives helping to address the female:male imbalance include:

- A 2012 winner of Young Engineer of the Year, local schoolgirl Jessica Jones, was hosted by the School while working on her project in medical electronics.
- An academic member of staff has a schools outreach portfolio that includes recruitment, but also demonstrates the advantages to be gained by choosing STEMM subjects at an early stage (GCSEs, A-levels). Further information on outreach is on page 36.
- Dragonfly Days are run every summer in the School to introduce girls from local high schools to engineering-based activities.
- Dedicated secondary School career advisors days.
- In collaboration with the Smallpeice Trust, the School hosts a one-week residential summer school for 40 sixth-formers on the topic of mobile communications. The 2012 course had 9 female out of 30 attendees (30%). SOURCE: The Smallpeice Trust.

The School recently hosted the Discover! Club, aimed at Year 9 girls from South Wales secondary schools. 30 girls had the chance to build wind turbines, and were visited by the DoS, and by Welsh Government Equalities Minister Jane Hutt. Karen Holford’s tenure as DoS over the last couple of years has improved the visibility and prominence of female academic staff in the School.

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

The postgraduate taught courses recruit much smaller numbers than UG programmes, and so the related gender data must be viewed in this context. However table 2 illustrates that the School is recruiting a fair proportion of the total pool of female engineers seeking MSc degrees in the UK.

*Table 2 Proportion of females on postgraduate taught courses*

Year	Female % applicants to the School	Female % entrants to the School	Female % entrants for the whole UK sector, Engineering & Technology (full-time MScs)
2008/9	20%	18%	18%
2009/10	18%	20%	18%
2010/11	17%	15%	19%
2011/12	20%	16%	Data not yet available

Most of the School's MScs can be taken as part-time programmes over 2 or 3 years, allowing students flexibility to access Masters level education. However, take-up of the part-time option is very low, for both genders, and the School will improve its marketing of part-time options to potential applicants **(AP 2.2)**.

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

In the last 3 years, female postgraduate research intake increased from 15% to 20%, and was 4% higher than the sector average in 2010-11 (Table 3). Female postgraduate research awards increased from 18% to 23% (Table 4) and withdrawals decreased from 18% to 0% (Table 5).

Initiatives to address gender balance include a Lotus Connections Engineering Female Researchers online community which is available on and off campus and which provides a central site for forums, career advice, promoting in-house and external events. It contains important links to UKRC, MentorSET, Women's Engineering Society, Dorothy Hodgkin Fellowships, Athena SWAN and Royal Academy of Engineering. There are currently 22 female members.

Future initiatives will review promotional materials to increase the appeal to females **(AP 2.3)**, highlight reasons why females pursue research and relay this to undergraduates **(AP 2.4)**, ensure that female students/staff are showcased and ensure visibility of female academic staff at PGT/PGR open days **(AP 2.5)**. Additionally a project funded by the Royal Academy of Engineering, orchestrated by staff membership to the Women's Engineering Society (WES) Council, will produce marketing literature on the 'Voice of Women Engineering Students' (with thoughts and aspirations of 1200 women engineering students). Also, if any issues with the recruitment process are identified, a gender equality impact assessment will be performed.

Table 3 Female PGRs in the School and the Sector

	2008-09					2009-10					2010-11				
	ACE	EEE	MMM	GEN	TOTAL	ACE	EEE	MMM	GEN	TOTAL	ACE	EEE	MMM	GEN	TOTAL
	Female as % of TOTAL					Female as % of TOTAL					Female as % of TOTAL				
<b>Sector Average</b>	24%	17%	13%	21%	<b>18%</b>	25%	17%	17%	22%	<b>21%</b>	22%	17%	16%	20%	<b>16%</b>
<b>Cardiff</b>	25%	13%	0%	0%	<b>15%</b>	17%	17%	18%	15%	<b>17%</b>	0%	0%	17%	19%	<b>20%</b>
<b>Variance</b>	1%	-4%	-13%	-21%	<b>-3%</b>	-8%	0%	1%	-7%	<b>-4%</b>	-22%	-17%	1%	-1%	<b>4%</b>



Table 4 Postgraduate research degrees awarded

	2011	2010	2009
% Female	23	8	18
% Male	77	92	82

Source: HESA data (HEIDI & UKRC)

Table 5 Number of withdrawals from postgraduate research degrees

Entry Year	Number of withdrawals	
	Female	Male
2008/09	2 (18.18%)	4 (7.84%)
2009/10	0	5 (8.77%)
2010/11	0	3 (5.08%)

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

The proportion of female undergraduate applicants in the School has risen steadily over the last 4 years. The data compares favourably with the UK picture (Engineering & Technology) where the % of applications and the % of entrants are higher than the national % for entrants (Table 6).

This small improvement in the proportion of *entrants* who are female is set against a background of little change in the proportion of female *applicants* to UG programmes, giving confidence that the School's current admissions processes do not deter female applicants, or reduce the likelihood of their conversion, *once* they have applied.

The School will investigate why females applied and accepted a place in order to consider the future marketing **(AP 2.1)**. Difficulty remains in influencing girls to choose science options at GCSE level and A level, thus putting them in the position to apply for STEMM subjects.

*Table 6 Proportion of female undergraduates*

Year	Female % applicants to the School	Female % entrants to the School	Female % entrants for the whole UK sector, Engineering & Technology (full-time)
2008/9	16%	16%	16%
2009/10	17%	17%	17%
2010/11	17%	18%	15%
2011/12	17%	19%	Data not yet available

Source: School statistics, plus HESA data via HEIDI.

For Taught Postgraduate Courses female offers to application rates have been consistently higher at 70-79% compared to 67-73% for male students (Table 7). This indicates that female applicants are better qualified. Conversion rates have fluctuated and in 2010/11 were somewhat down for both males and females.

*Table 7 Postgraduate taught courses: percentage of female and male applicants who received an offer and conversion of applicants to entrants*

		2008-09	2009-10	2010-11
<b>Applicants receiving an offer</b>	<b>% Female</b>	79	70	76
	<b>% Male</b>	73	67	72
<b>Conversion Rate (applicants to entrant)</b>	<b>% Female</b>	23	32	17
	<b>% Male</b>	29	30	22

(HESA Data, Source: HEIDI)

Cardiff's female Postgraduate Research application and offer percentages fluctuate widely (Table 8). The ratio of female offer to application rate has consistently been considerably higher (63-76%) than for male students (60-66%). Furthermore, conversion rates have risen from 54% to 69% over the three year period and these are considerably higher than for male applicants (from 53% to 58%). Again this would indicate that female applicants are better qualified.

*Table 8 Postgraduate research students: female and male offer to application and conversion rates*

		2008-09	2009-10	2010-11
<b>Applicants receiving an offer</b>	<b>% Female</b>	76	64	63
	<b>% Male</b>	66	64	60
<b>Conversion Rate (offer holder to entrant)</b>	<b>% Female</b>	54	63	69
	<b>% Male</b>	58	54	53

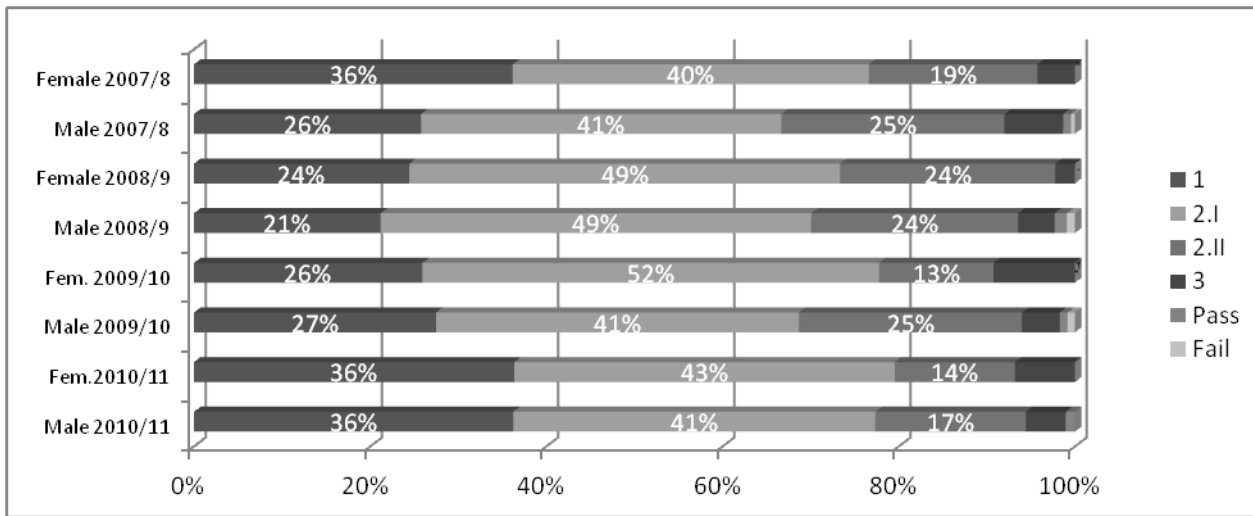
(HESA Data, Source: HEIDI)

There are plans to extend the Cardiff Women's Engineering Researcher's Network to undergraduate and PGT female students (**AP 2.6**). There are already initiatives run through this network that are aimed to engage undergraduate female students. At the WES Student Conference this year, one of the staff members involved in the Women's Engineering Researcher's Network chaired a workshop on 'establishing women engineering student groups' with the aim of generating and sharing details of best practice and to encourage UK wide networks for Women Engineering student groups. This initiative is being lead by WES.

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

For the years 2008/09, 2009/10 and 2010/11 the percentage of females obtaining a 1<sup>st</sup> class degree was 24%, 26% and 36%, respectively and the percentage of females obtaining an upper 2<sup>nd</sup> class degree was 49%, 52% and 43% respectively. Females performed similarly to male students in achieving a 1<sup>st</sup> but slightly above the expected distribution level given the gender balance of each cohort (Figure 2). This reflects a positive teaching and learning environment in which female students can achieve their full potential, despite being a "minority" group in the School.

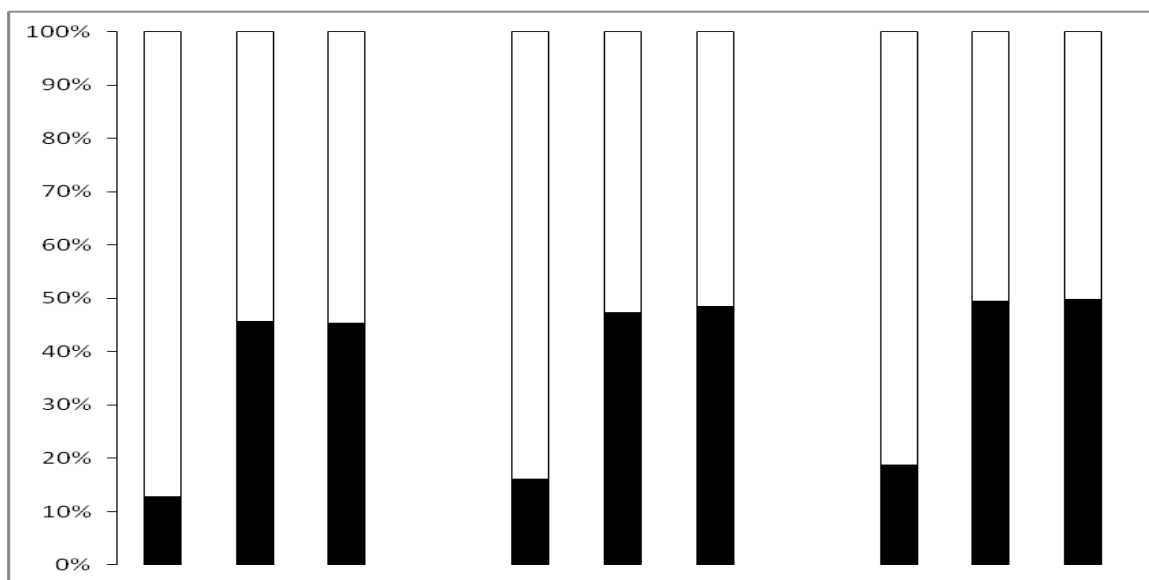
*Figure 2 Degree classification by gender*



## Staff data

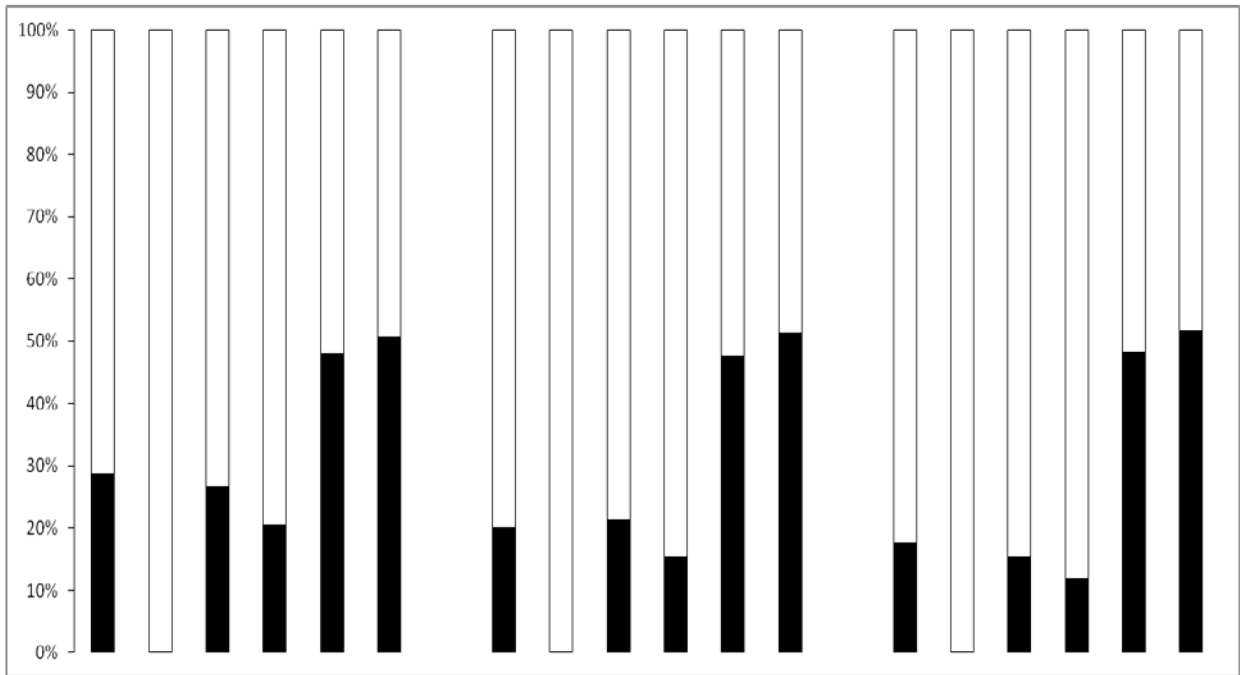
- (vii) **Female:male ratio of academic staff and research staff** – researcher, lecturer, senior lecturer, reader, professor (or equivalent). Comment on any differences in numbers between males and females and say what action is being taken to address any underrepresentation at particular grades/levels.

*Table 9 Staff by gender: Researchers*



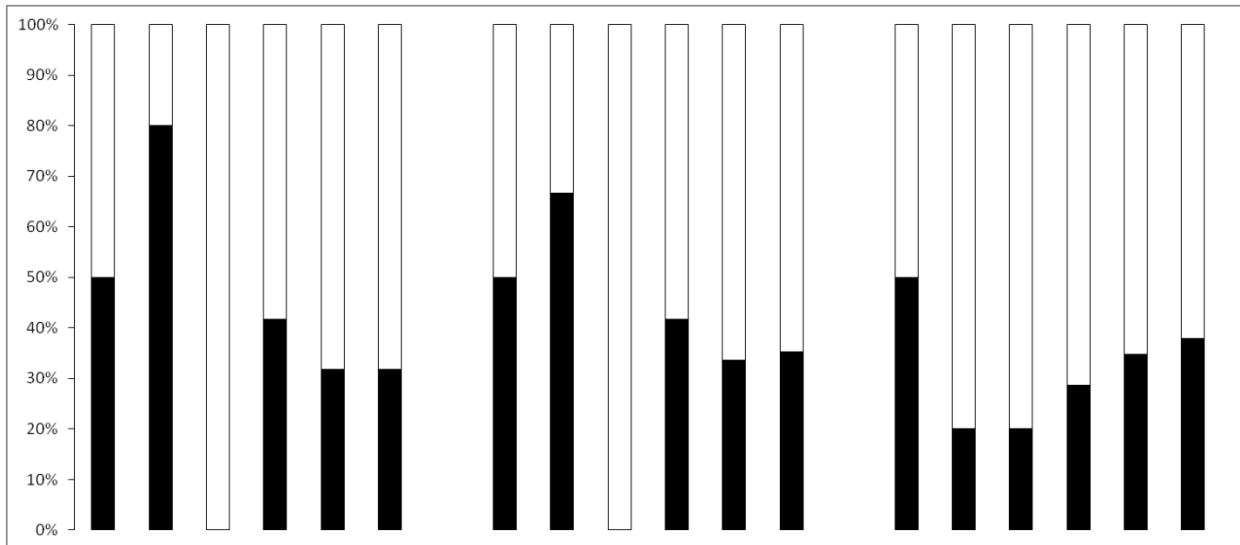
	2009			2010			2011		
	ENGIN	SET	UNIV	ENGIN	SET	UNIV	ENGIN	SET	UNIV
Male <input type="checkbox"/>	34	405	467	57	359	410	61	378	419
Female <input checked="" type="checkbox"/>	5	341	388	11	323	385	14	369	417
%									
Male <input type="checkbox"/>	87.2	54.3	54.6	83.8	52.6	51.6	81.3	50.6	50.1
Female <input checked="" type="checkbox"/>	12.8	45.7	45.4	16.2	47.4	48.4	18.7	49.4	49.9

**Table 10 Staff by gender: Lecturers**



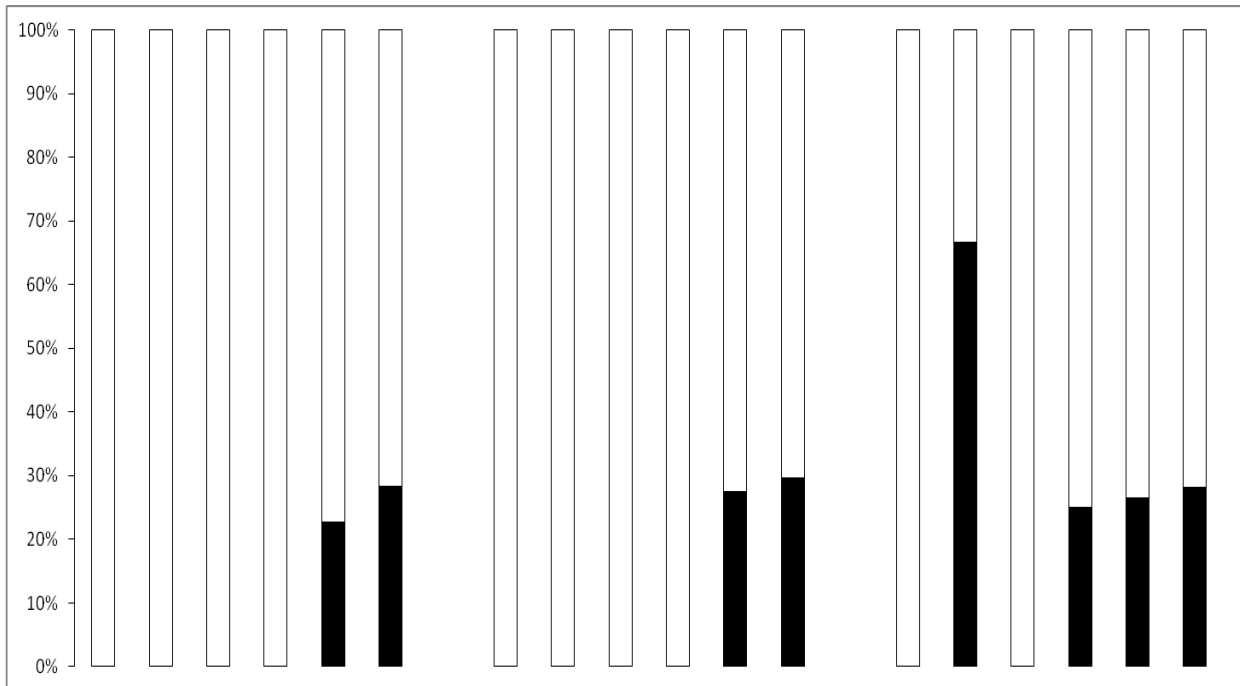
	2009						2010						2011					
	ACE	MMM	EEE	ENGIN	SET	UNIV	ACE	MMM	EEE	ENGIN	SET	UNIV	ACE	MMM	EEE	ENGIN	SET	UNIV
Staff																		
Male <input type="checkbox"/>	10	10	11	31	372	717	12	10	11	33	351	641	14	12	11	37	364	622
Female <input checked="" type="checkbox"/>	4	0	4	8	344	736	3	0	3	6	319	673	3	0	2	5	340	664
%																		
Male <input type="checkbox"/>	71.4	100.0	73.3	79.5	52.0	49.3	80.0	100.0	78.6	84.6	52.4	48.8	82.4	100.0	84.6	88.1	51.7	48.4
Female <input checked="" type="checkbox"/>	28.6	0.0	26.7	20.5	48.0	50.7	20.0	0.0	21.4	15.4	47.6	51.2	17.6	0.0	15.4	11.9	48.3	51.6

**Table 11 Staff by gender: Senior Lecturers**



	2009						2010						2011					
	ACE	MMM	EEE	ENGIN	SET	UNIV	ACE	MMM	EEE	ENGIN	SET	UNIV	ACE	MMM	EEE	ENGIN	SET	UNIV
Staff																		
Male <input type="checkbox"/>	1	1	5	7	178	248	1	2	4	7	160	224	2	4	4	10	159	216
Female <input checked="" type="checkbox"/>	1	4	0	5	83	116	1	4	0	5	81	122	2	1	1	4	85	132
%																		
Male <input type="checkbox"/>	50.0	20.0	100.0	58.3	68.2	68.1	50.0	33.3	100.0	58.3	66.4	64.7	50.0	80.0	80.0	71.4	65.2	62.1
Female <input checked="" type="checkbox"/>	50.0	80.0	0.0	41.7	31.8	31.9	50.0	66.7	0.0	41.7	33.6	35.3	50.0	20.0	20.0	28.6	34.8	37.9

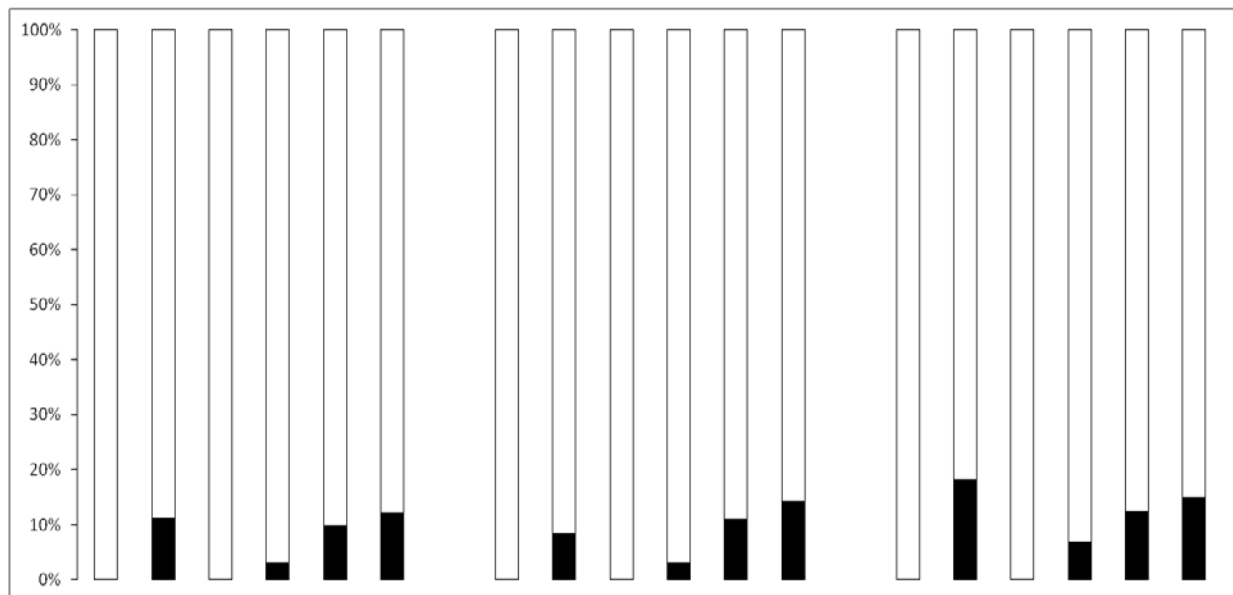
**Table 12 Staff by gender: Readers**



	2009						2010						2011					
	ACE	MMM	EEE	ENGIN	SET	UNIV	ACE	MMM	EEE	ENGIN	SET	UNIV	ACE	MMM	EEE	ENGIN	SET	UNIV
Staff																		
Male <input type="checkbox"/>	2	3	1	6	61	86	1	1	1	3	66	107	3	1	2	6	75	115
Female <input type="checkbox"/>	0	0	0	0	18	34	0	0	0	0	25	45	0	2	0	2	27	45
%																		
Male <input type="checkbox"/>	100.0	100.0	100.0	100.0	77.2	71.7	100.0	100.0	100.0	100.0	72.5	70.4	100.0	33.3	100.0	75.0	73.5	71.9
Female <input type="checkbox"/>	0.0	0.0	0.0	0.0	22.8	28.3	0.0	0.0	0.0	0.0	27.5	29.6	0.0	66.7	0.0	25.0	26.5	28.1



**Table 13 Staff by gender: Professor**



	2009						2010						2011					
	ACE	MMM	EEE	ENGIN	SET	UNIV	ACE	MMM	EEE	ENGIN	SET	UNIV	ACE	MMM	EEE	ENGIN	SET	UNIV
Staff																		
Male	12	8	11	32	256	397	10	11	9	31	259	404	7	9	10	27	252	391
Female	0	1	0	1	28	55	0	1	0	1	32	67	0	2	0	2	36	69
%																		
Male	100.0	88.9	100.0	97.0	90.1	87.8	100.0	91.7	100.0	96.9	89.0	85.8	100.0	81.8	100.0	93.1	87.5	85.0
Female	0.0	11.1	0.0	3.0	9.9	12.2	0.0	8.3	0.0	3.1	11.0	14.2	0.0	18.2	0.0	6.9	12.5	15.0

Tables 9 - 13 show the proportions of female staff at different career grades in the School, compared with the SET Schools in Cardiff and with the University overall. The School's academic staff are grouped in the disciplines of Civil Engineering, Mechanical Engineering and Electrical/Electronic Engineering (research staff are identified as members of inter-disciplinary Research Institutes).

For all categories of staff except Senior Lecturers, the proportions of female staff in the School has historically lagged behind that in the other SET Schools and until 2011 there was only one female Professor. Although the total number of female academic staff in the School, and the proportion of new appointments, have remained roughly constant over the three years 2009-2011, the proportions of females among the senior academic staff have increased as a result of high numbers of female staff gaining promotions. Meaningful comparisons for the individual disciplines cannot be made due to the small numbers of staff involved.

Although not directly comparable with the above figures, HESA data (2008/9) suggests that the proportion of female staff in the Engineering and Technology cost centre group is actually higher at Cardiff (16% than our main comparator group the Russell Group (14%).

Over the same period the total number of research staff has almost doubled, with a significant increase in the proportion of female staff from 12.8% to 18.7%. This reflects an increase in the

proportion of female applicants for such posts, especially in Medical Engineering where a number of recently graduated female PhD students have been appointed as postdoctoral researchers.

Examples of initiatives to support female staff include:

- confidence building workshops, 11 members of female research and academic staff attended the pilot session held within the School
- mentoring through the Women in Universities Mentoring Scheme
- organisation of research seminars and general lectures through the Cardiff Women's Professors Forum; for which the School provided a high proportion of the speakers and attendees
- ensuring a gender balance in promotional material, website and recruitment information
- ensuring female representation on appointing panels whenever possible
- establishment of a free training programme through the Research Staff Concordat
- a staff development budget offering training opportunities for all staff, (to date 23% of academics and 26% of researchers who accessed this were female)
- significant opportunities for Leadership and Management training
- workshops for academic staff considering and preparing applications for promotion, including one specifically for female staff
- mandatory equality and diversity training for all staff
- an annual cycle of appraisal, with refresher training for appraisers, allowing a cascade of expectations from DoS via appraisers to all staff
- an academic workload model allowing reduced teaching loads for new academic staff and those returning from long term absence such as maternity leave
- PCUTL training for newly appointed lecturers.

Further details of these initiatives are given in subsequent sections.

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

It has been difficult to obtain reliable figures for staff turnover, due to the recording of retirements, etc. No significant differences have been identified between turnover rates for male and female staff, including research staff on fixed-term contracts. Additional data will be obtained and reviewed in order to identify and address any issues **(AP 1.4)**.

**Section 3 word count 1998/2000**

4. Supporting and advancing women’s careers: maximum 5000 words

Key career transition points

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

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

Figure 3

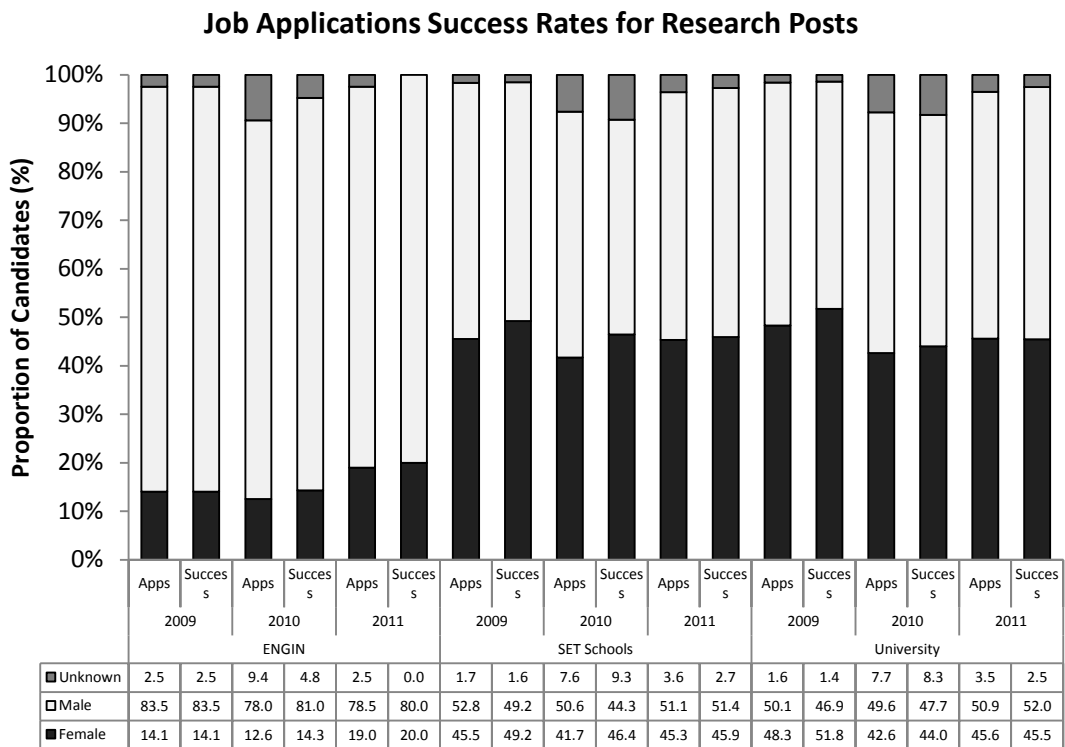


Figure 3 shows the application and success rates for Research staff. The School saw a small increase in 2010 and a larger increase in 2011, with females being appointed to 20% of research positions, although the figures are still significantly lower than other SET schools within the University and the University overall.

Figure 4

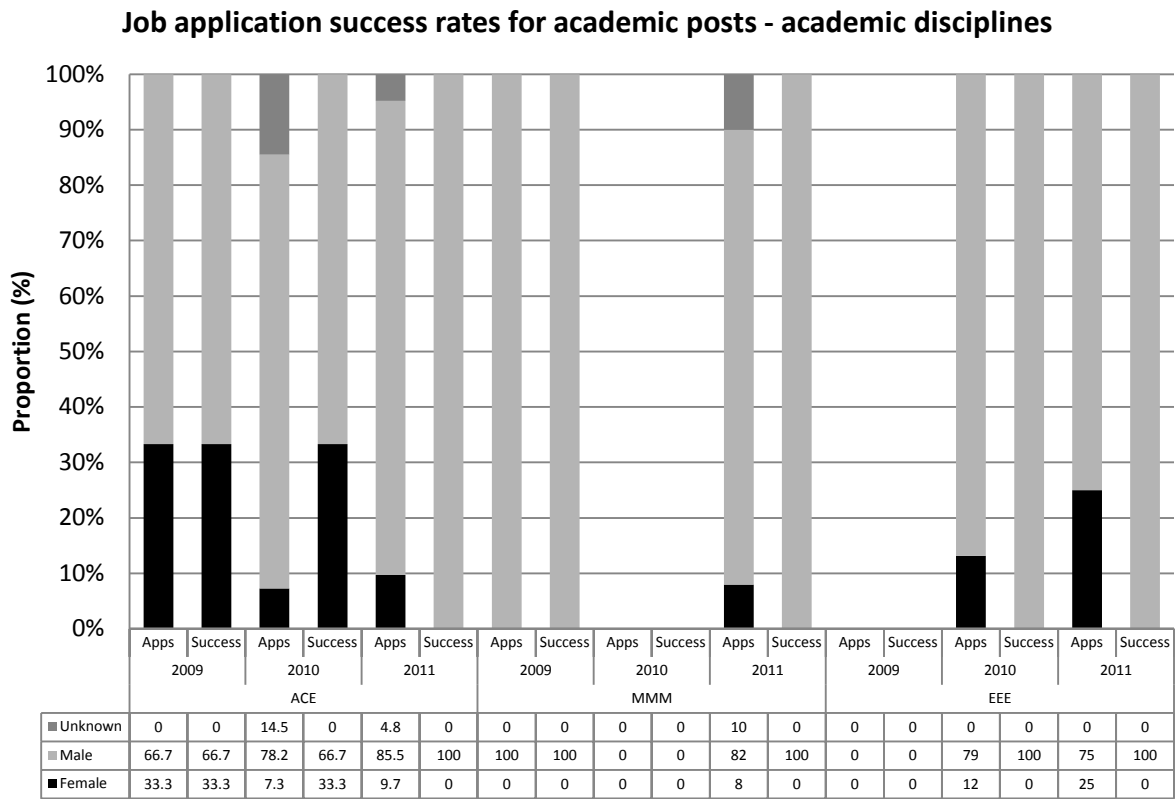


Figure 5

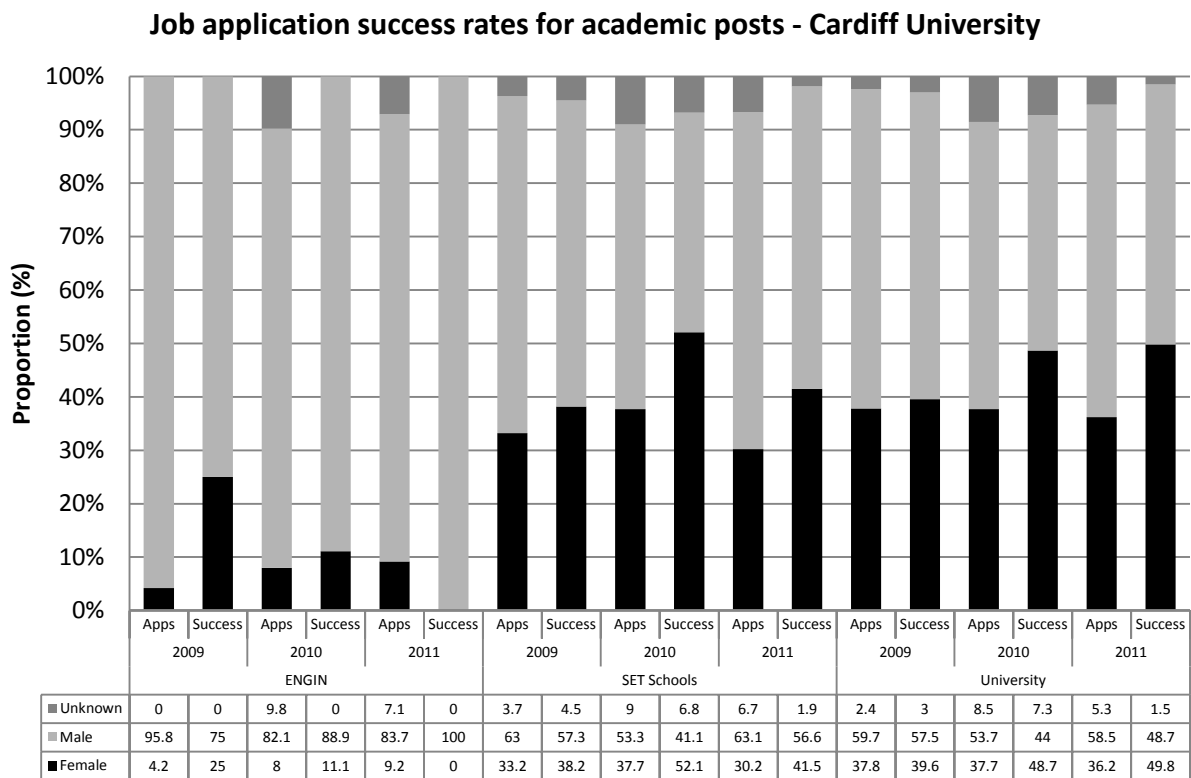


Figure 4 above outlines the job application and success rates for academic posts by academic discipline. Over the 3 year period (2009-2011) total appointments were:

ACE: 8 posts, 5 male:3 female appointments

MMM: 3 posts, 3 male appointments

EEE: 2 posts, 2 male appointments

In ACE the data shows that the female success rate remained at 33.3% in 2009 and 2010 with no female academic staff appointed in 2011. In MMM there were no female applications in 2009 and no vacancies advertised in 2010. In 2011 the percentage of female applicants rose to 8%, although the vacancies were filled by males. In EEE there were no academic vacancies in 2009, but in 2010 12% of applications were received from females, rising to 25% in 2011 although these posts were filled by males.

The data indicates that the School is not attracting sufficient numbers of female applicants and consequently the number of female staff appointed is low. However the data currently available does not provide adequate information to allow the School to gain a clear understanding of the situation. The School will review the data available and develop reports identifying the number of posts advertised in each discipline, the number of applications received (broken down by gender) and how these applicants fare at each stage of the recruitment process **(AP 1.3)**.

Regardless of data issues, the School recognises that staff recruitment is an area of concern and recruitment has been highlighted as a priority area. The School will equality impact assess the recruitment process from advertisement through to appointment to identify areas of improvement **(AP 3.1)**.

The School will also implement the following:

- Develop of the website as an attraction tool **(AP 3.2)**
- Identify non-traditional advertising routes, e.g. using the female networks to promote academic and research vacancies at Cardiff University. **(AP 3.3)**
- Identify the females working in the research area in order to personally invite them to apply for available posts **(AP 3.4)**.

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

*Table 14* Applications and success rates for promotions by gender and grade

Year	Position	Total Applicants		Withdrawn		Successful		Unsuccessful	
		Female	Male	Female	Male	Female	Male	Female	Male
2008/2009	Personal Chair	0	2	0	1	0	1	0	0
	Reader	1	0	0	0	0	0	1	0
	Senior Lecturer (Teaching and Research)	0	2	0	0	0	1	0	1
	Senior Lecturer (Teaching and Scholarship)	0	0	0	0	0	0	0	0
2009/2010	Personal Chair	0	2	0	0	0	2	0	0
	Reader	0	0	0	0	0	0	0	0
	Senior Lecturer (Teaching and Research)	0	0	0	0	0	0	0	0
	Senior Lecturer (Teaching and Scholarship)	0	1	0	0	0	1	0	0
2010/2011	Personal Chair	1	1	0	0	1	0	0	1
	Reader	2	2	0	0	2	2	0	0
	Senior Lecturer (Teaching and Research)	2	4	0	0	2	4	0	0
	Senior Lecturer (Teaching and Scholarship)	0	0	0	0	0	0	0	0

Table 14 shows that promotion applications have increased significantly between in 2008/2009 (one female application out of five, which was unsuccessful) and 2010/2011 (5 female applications out of 12, all of which were successful).

The promotions process is coordinated centrally within the University. The School uses the annual appraisal process to determine whether a staff member is ready to be considered for promotion, along with discussions with the Director of School. The Director of School also reviews all appraisal documents to ensure that careers are being managed effectively to enable staff progression. An annual promotions workshop for staff outlines the process for applying for promotion and gives individuals advice on what information they need to prepare.

In 2010 the School of Engineering also piloted a Confidence Building Programme for female academics. Subsequently the number of promotion applications made by females in that year increased considerably (from 0 in 2009/2010 to 5 in 2010/2011). As a direct result, the Confidence Building programme has been implemented across the University.

To further improve promotions results the School will:

- offer a Confidence Building Programme for female academics every 3 years, with interim workshops being held across the College, in order to capture new female academics (AP 4.1);

- continue annual promotions workshops for staff - with a session specifically for female staff **(AP 4.2)**;
  - hold annual appraisal workshops for line managers to ensure they have the skills required to undertake the role and to develop staff accordingly **(AP 4.3)**.
- b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
- (i) **Recruitment of staff** – comment on how the department’s recruitment processes ensure that female candidates are attracted to apply, and how the department ensures its short listing, selection processes and criteria comply with the university’s equal opportunities policies

The School follows University policy regarding recruiting staff. This policy is centred upon the need to adhere to Equal Opportunity guidelines in all stages of the recruitment and selection process. Job descriptions and adverts are written by the recruiter and are reviewed by the HR Officer before proceeding to advert.

As a result of the recommendations made in the Cultural Analysis Tool report, Equality and diversity training is mandatory for all line managers and the School ensures that anyone chairing an appointing panel has undertaken the Chairing Appointing Panels training course. Other members of the interview panel are also encouraged to attend recruitment and selection courses in order to improve their interviewing skills.

All interviews are held within core working hours, and shortlisted applicants have the opportunity to request a change to their interview slot.

The School attempts to ensure that appointing panels have female representation, however due to the ratio of female:male staff this is not always possible. Of the 24 staff trained to act as chair of appointing panels, only 5 of these are female. In an attempt to improve the gender balance of appointing panels, female staff will be invited to attend the Chairing Appointing Panel training **(AP 3.5)**. Further actions to attract female applicants have been highlighted on page 21.

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

The School aims to support people through career transition points at all levels, including between the transition from research to academic positions. Measures to support this, with a particular emphasis on supporting females are:

- Researchers are invited to all research seminars to ensure they become embedded into School life.
- Committee positions are available to researchers (i.e. Health and Safety, Equality and Diversity).
- Staff Forum for Researchers.
- There is a Research Staff Coordinator to develop training opportunities and new policies.
- Workshops on funding applications.
- Peer review and research council funding panels are offered to researchers and academics.
- Mentoring at various career stages.
- Participation is encouraged in University-provided courses: Leading and Managing Teams, Leadership and Management Development Programme for Research Team Leaders and Practical Leadership for University Management, with 27 members attending since 2008 (7 female) and 6 people (2 female) already allocated to attend in 2012/2013. Courses are designed to provide staff with the key skills required to fulfil their career potential and to build and lead effective teams. The Leadership and Management Development Programme for Research Team Leaders also received THE Award for Outstanding Contribution to Leadership Development.
- All early stage academics are supported to successfully complete the Postgraduate Certificate in Teaching & Lecturing
- Female academic staff are encouraged to request Research Leave
- The School piloted a Confidence Building workshop for Women in 2009/2010 (page 22).
- All line managers are required to attend appraisal training and the School holds annual refreshers. In addition all probation and appraisal documents are reviewed by HR Officer and Director of School to ensure they are undertaken effectively and training requirements have been considered.
- Female members of the School are encouraged to contribute to the activities of the University's Women Professors Forum which aims to provide female academics with peer support, guidance and the opportunity to network with successful female colleagues.
- The School has a Workload Model which ensures a transparent and equitable allocation of workload (page 34).

### **Career development**

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

All staff receive ongoing mentoring, appropriate to their job function and career stage, through the line management system (as recommended in the Cultural Analysis Survey report). Career



development review and planning is formalised through mandatory probation and annual appraisals. For academic staff, the appraisal is conducted with reference to a self-assessment document which the appraisee prepares on a detailed template. This template ensures that performance in key areas such as research publications, research grants, teaching and outreach work is captured in a uniform way and reviewed as objectively as possible. Importantly, the School also has a workload model which informs allocation of teaching, administration and outreach activities and serves as a tool for individuals to reflect on, and plan the development of, their various responsibilities.

Academic promotion at Cardiff University is handled through a university-wide process, where individuals' self assessment against specific criteria is considered, with reference to external opinion. An individual staff member's readiness for promotion is reviewed in annual appraisals and through discussions with the DoS. The School ensures that all female staff are familiar with the promotion guidelines and schemes of assessment via the annual promotions workshop. Furthermore, a series of special measures have been implemented to support the promotion of female academic staff leading to the promotion to 5 female academics in 2011. These measures include: (i) The previous DoS mentoring and supporting all female staff on career progression where identified through appraisal and mentoring; (ii) All new academic staff are mentored and encouraged to attend regular Cardiff Engineering Women Academic Network events (as recommended in the Cultural Analysis survey); (iii) The re-launch of the Cardiff Women Professor's Forum (page 24); (iv) A Confidence-Building programme for academic Women (page 22) **(AP 4.1)**.

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

The School runs its own local induction that provides a forum for new staff to meet and network. At these sessions information is provided on work-life balance policies, career development activities and the Positive Working Environment embedded in the University. New academics receive a first day induction where they have a welcome meeting with the Director of School (DoS), a tour of the School and the opportunity to meet with key members of staff. New staff are also required to attend the University induction.

In order to mainstream equality and diversity into the culture of the School all staff undertake an online equality and diversity training module and the School also organises additional mandatory equality and diversity courses for line managers (recommendation from Cultural Analysis Survey report).

The HR web-pages for new staff provide key information. The tenor of these pages, where induction, staff development, training, career development and flexible working are incorporated, reflects the priority given to immersing new staff in the inclusive and supportive culture the University promotes. These web-pages are also promoted at the local induction.

Other staff development activities are delivered centrally by the University and these are publicised via the School induction, at School meetings and via email when the new staff development brochure is published. Courses are available at all career levels and some are specifically directed to key transition points (see page 24). Bespoke training seminars are organised locally when a need is identified, e.g. annual appraisal refresher courses for line managers; annual promotions workshops. Postgraduate Staff and Students are provided with compulsory and optional Postgraduate Training Courses through the School and Graduate Centre.

New probationary academics have reduced teaching hours to allow the development of their research portfolio. They are supported in undertaking their Postgraduate Certificate in University Teaching and Learning (PCUTL), and to attend numerous CPD courses.

In addition to the above, the following initiatives re targeted at new female starters:

1. The University regularly publicises external events for women in SET.
2. The Women Professor's Network (see page 24)
3. The University participates in the Women's Universities Mentoring Scheme (WUMS) project for women in higher education in Wales, funded by the Higher Education Funding Council for Wales (HEFCW). Female employees from different higher education institutions form mentoring partnerships. The aim of these relationships is for the mentee to receive encouragement, support and advice from a more experienced colleague.

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

Over the past 3 years the former DoS (now PVC Head of College) Professor Karen Holford, has provided an exemplary figurehead, mentor and role model for female staff and students.

The School recently participated in the University's Inclusive Curriculum Project which aims to eliminate discrimination and promote equality for minority groups in relation to learning, teaching and assessment.

The number of female academic staff within the School is relatively high in comparison to Russell Group competitors and thus allows for the development of appropriate initiatives including mentoring for summer and industrial placements during UG studies and the introduction of WISE and gender specific lectures.

All students attend induction sessions that provide information on the support and development opportunities available. The School also organises an annual research seminar that allows research students to network and present their research to others. In 2012 4% of female and 8.5% of male research students attended.

The School has a dedicated Careers Officer who coordinates career guidance talks from the University Careers Service and recruitment talks from specific employers. Recently, a female career advisor has been appointed to support Engineering students.

In 2009 4 UG students were funded to attend the Women's Engineering Society Conference. feedback received was very positive. Also, postgraduate research students are invited to research seminars within the School which provide opportunities for them to network with researchers and academic staff

The University has a Financial Contingency Fund in place which has tripled in value this year. The fund ensures that students who may find it difficult to continue if they have dependency or maternity issues can apply for extra funding to allow them to continue their studies.

The School also provides financial support for postgraduate students to attend overseas conferences. Moreover, postgraduate students have the opportunity to meet with visiting speakers at the Cardiff Spring Conference, providing contact with senior female academics. Students have access to female staff whenever they required.

### **Organisation and culture**

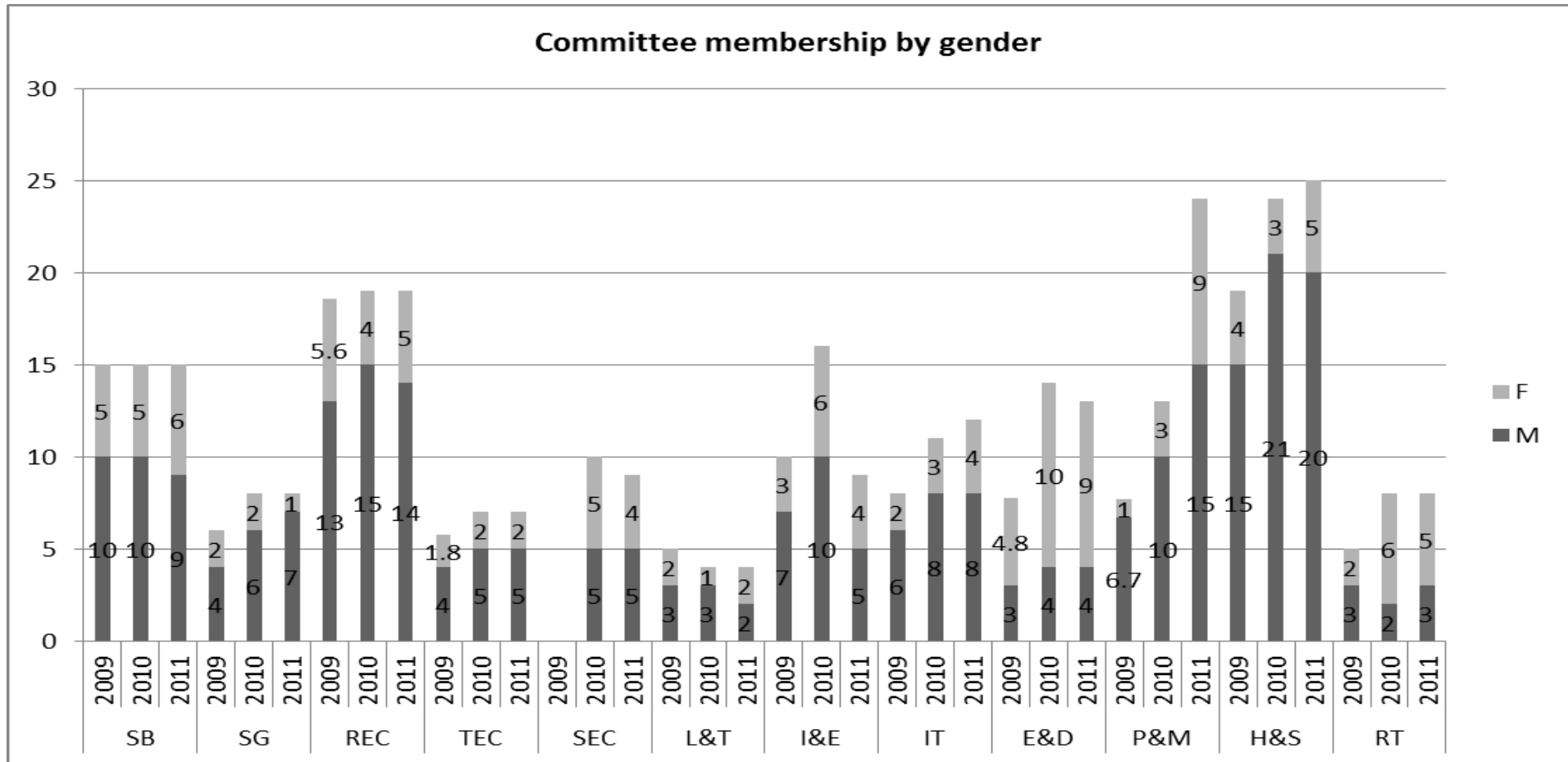
- a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.
  - (i) **Male and female representation on committees** – provide a breakdown by committee and explain any differences between male and female representation. Explain how potential members are identified.

The principal committees of the School have male and female representation and their breakdown for 2011/2012 is given in Table 15. The committee membership by gender for the last three years is illustrated in figure 6.

*Table 15 Committee membership by gender 2011/2012*

Committee Name	Committee Membership Gender Split (FTEs)							Total Membership	Female Academic as % of committee membership	Female Academic as % of academic committee membership
	Male Academic	Male Admin / Managerial	Female Academic	Female Administrative/ Managerial	Student Female	Student Male	Female Academic Chair			
School Board (SB)	8	1	4	1	0	0	1	15	33%	38%
Strategy Group (SG)	6	1	0	0	0	0	1	8	13%	14%
Strategy Group (annual meeting)	23	6	8	7	0	0	1	45	20%	28%
Research Executive Committee (REC)	9	5	3	2	0	0	0	19	16%	25%
Teaching Executive Committee (TEC)	5	0	1	1	0	0	0	7	14%	17%
Staff Executive Committee (SEC)	1	4	2	2	0	0	0	9	22%	67%
Board of Studies	74	0	14	1	0	1	0	90	16%	16%
Learning and Teaching (L&T)	2	0	1	0	0	0	1	4	50%	50%
Innovation and Engagement Committee (I&E)	3	2	2	2	0	0	0	9	22%	40%
IT Strategy Committee (IT)	5	3	0	3	0	0	1	12	8%	17%
Equality and Diversity Committee(E&D)	2	2	3	4	1	0	1	13	31%	67%
Recruitment Committee (REC)	9	6	2	7	0	0	0	24	8%	18%
Health & Safety Committee (H&S)	13	5	1	3	1	2	0	25	4%	7%
Research Tutors (RT)	1	1	2	2	0	1	1	8	25%	75%

Figure 6 Committee Membership by gender for the last 3 years



Potential Committee members are identified by consideration of their expertise, experience and role. Female staff are not preferentially selected for committees and there is no target ratio of female to male representatives.

The membership also includes administrative staff and student representatives who are invited to be members of most committees. The membership is reviewed annually along with appraisal and workload schemes to ensure that all staff are allocated appropriate administrative/managerial posts throughout their career.

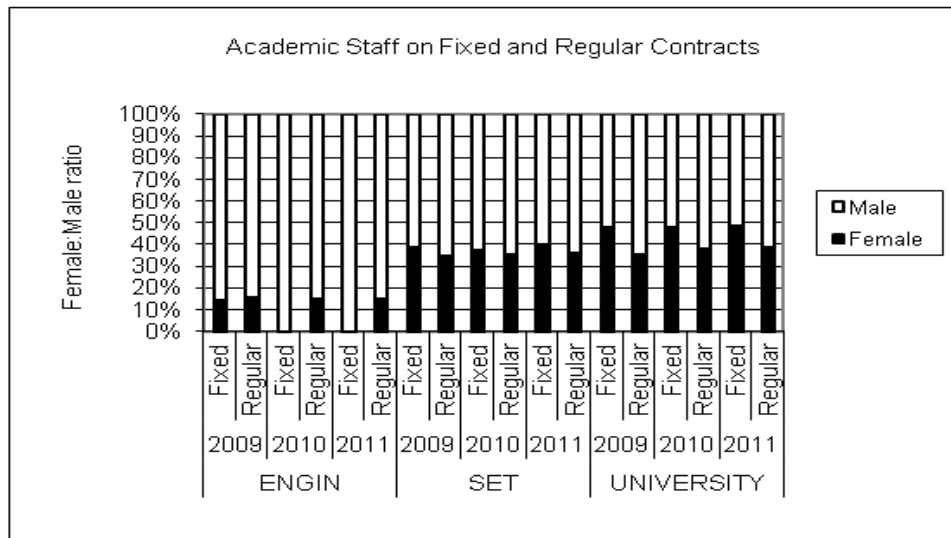
- (ii) **Female:male ratio of academic and research staff on fixed-term contracts and open-ended (permanent) contracts** – comment on any differences between male and female staff representation on fixed-term contracts and say what is being done to address them.

Figures 7 (a) & (b) and Table 16 show breakdown data of academic and research staff on fixed-term (fixed) and permanent (regular) contracts. Over the period 2009 – 2011 the school has a lower proportion of female academic and research staff on fixed contracts than SET schools or the University. In general the same is true for regular contracts, the percentage female staff at academic and research level is lower than SET Schools or the University.

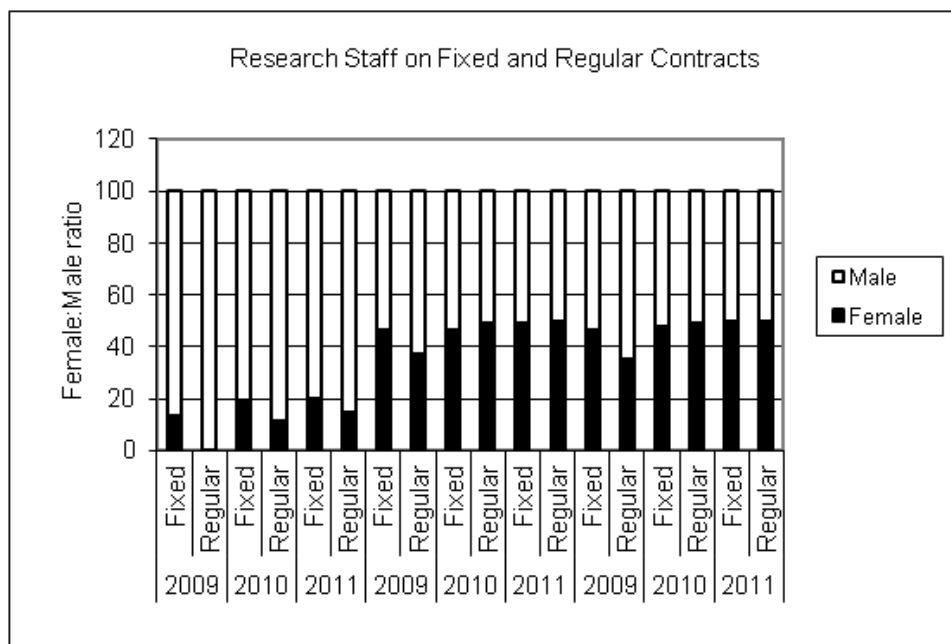
The number of female academics on fixed contracts was reduced to 0 from 2010 to 2011 in contrast to SET schools and University while the number of the regular contracts was maintained at 15%.

There is an overall increase of female researchers on fixed term contracts from 13.5% in 2009 to 20% in 2011. There are few female researchers on regular contracts although the proportion has risen from 0% to 15%. There is a good record of conversion of Fixed Term Research staff to Permanent Academic staff. In the last 3 years, 5 RAs previously employed on fixed-term research contracts have progressed to becoming Lecturers. This reflects current mentoring, training and recruitment initiatives adopted by the School.

*Figure 7 (a) Percentage breakdown of Male and Female Academics on fixed or regular contracts in ENGIN as compared to SET Schools and the University for 2009, 2010 and 2011*



*Figure 7 (b) Percentage breakdown of Male and Female Research staff, on fixed or regular contracts in ENGIN as compared to SET Schools and the University for 2009, 2010 and 2011*



*Table 16 Fixed Term and Permanent Contracts for 2011, 2010 and 2009*

<b>Academic staff</b>				
<b>Permanent</b>	<b>M</b>	<b>F</b>	<b>Total</b>	<b>Female as % of permanent academic staff</b>
<b>2009</b>	64	12	76	15.79%
<b>2010</b>	68	12	80	15%
<b>2011</b>	75	13	88	14.77%
<b>Fixed</b>	<b>M</b>	<b>F</b>	<b>Total</b>	<b>Female as % of fixed academic staff</b>
<b>2009</b>	12	2	14	14.29%
<b>2010</b>	6	0	6	0%
<b>2011</b>	5	0	5	0%

<b>Research staff</b>				
<b>Permanent</b>	<b>M</b>	<b>F</b>	<b>Total</b>	<b>Female as % of permanent research staff</b>
<b>2009</b>	2	0	2	0%
<b>2010</b>	24	3	27	11.11%
<b>2011</b>	17	3	20	15%
<b>Fixed</b>	<b>M</b>	<b>F</b>	<b>Total</b>	<b>Female as % of fixed research staff</b>
<b>2009</b>	32	5	37	13.51%
<b>2010</b>	33	8	41	19.51%
<b>2011</b>	44	11	55	20%



Figure 8 Research & Academic Staff Fixed-term and Permanent Contracts for 2011, 2010 and 2009.

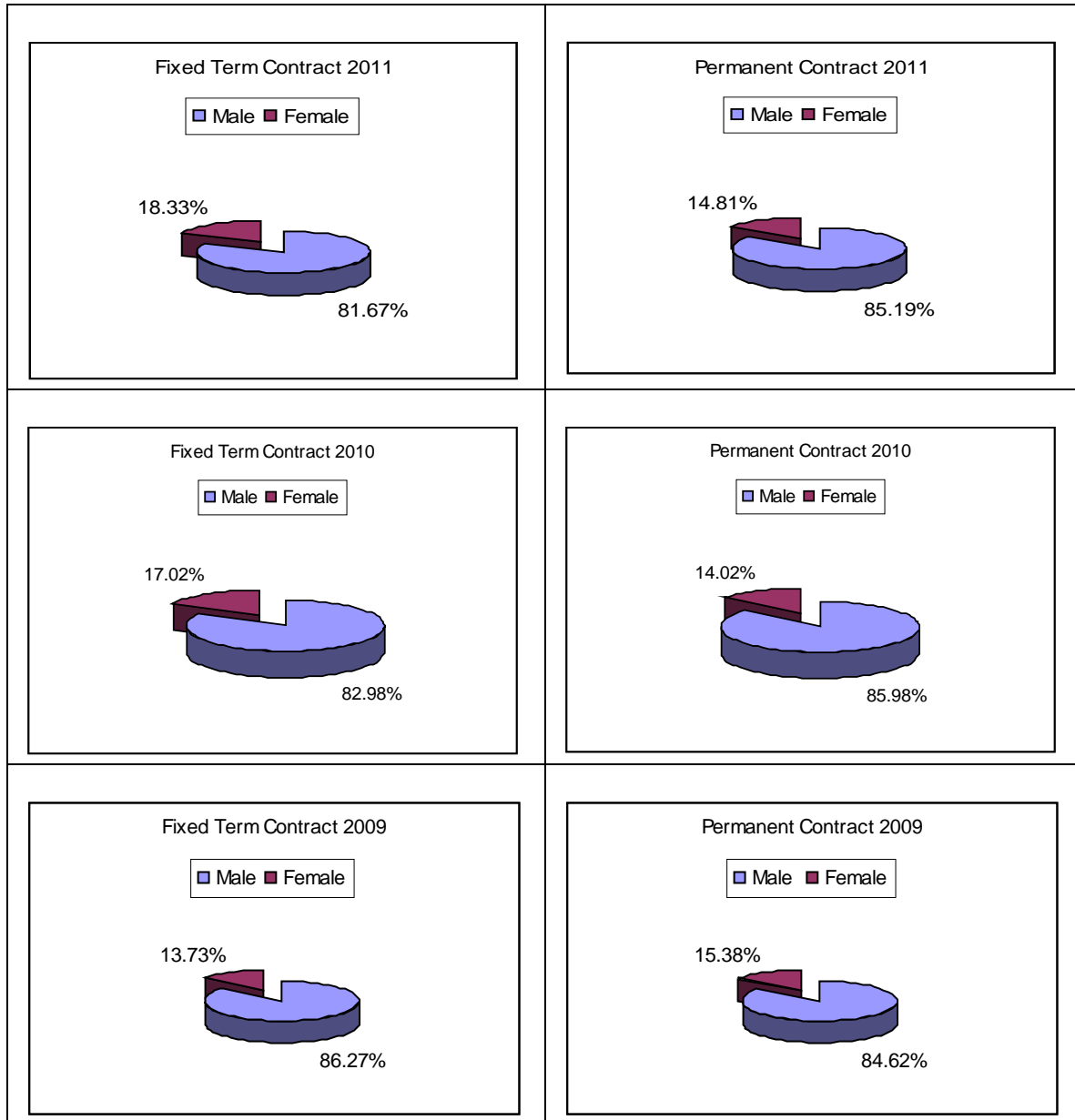


Figure 8 shows that the proportion of female staff on Fixed Term contracts has increased slightly in the past three years while the proportion has generally remained the same for female staff on Permanent contracts.

In order to address the disparity between male and female staff representation on fixed and permanent contracts the school will:

- continue to improve its staff mentoring process to improve career development prospects **(AP 4.4)**
  - review promotional material and recruitment process in order to attract high quality female applicants to research positions **(AP 2.3)**
  - nurture female researchers to encourage career progression ,organise training to help female staff to apply for and win open ended contracts **(AP 4.5)**.
- b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
- (i) **Representation on decision-making committees** – comment on evidence of gender equality in the mechanism for selecting representatives. What evidence is there that women are encouraged to sit on a range of influential committees inside and outside the department? How is the issue of ‘committee overload’ addressed where there are small numbers of female staff?

Table 15 shows that in 2011/2012 there are 7 out of 14 committees with female academic Chairs and all committees had female academic representation. However this was not necessarily in proportion to the ratio of male:female academic staff within the School.

Committee membership and structure is reviewed annually alongside Appraisal and Workload Model to ensure that all staff are allocated appropriate administrative/managerial duties throughout their career.

The School is conscious of the need to work towards more female representation on all key committees, and this is considered within the constraints of the small number of women academics, in particular at a senior level, and the need to ensure that their individual loads remain balanced. An allocation is given in the Workload Model for Committee membership and additional credit is given for Chairing a Committee.

Future action will be to review the gender balance of committees and consider whether committee members could be selected in a different way to achieve a more balanced gender representation. Additionally, where a committee has direct relevance to female student and staff conditions, consideration will be given to implementing a minimum ratio **(AP 5.1 / 5.2)**.

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

Following widespread consultation with staff, the School introduced an academic workload model in 2009-10. The aim is to enable the School to achieve its strategic goals while ensuring that duties are distributed fairly, encouraging staff to work to their full potential. The model measures teaching duties, research activities, administrative and leadership roles, as well as a wide range of other activities (including innovation, knowledge transfer, professional activities, public engagement and promoting equality of access to higher education). It generates reports which are fed into the appraisal process and provides guidance in the equitable allocation of duties. Although all staff are expected to contribute to teaching expectations are adjusted on an individual basis for part-time staff, and for those taking study leave, sickness or maternity/paternity leave.

The School is playing a leading role in the development of a workload model framework for the University, e.g. by offering advice to other Schools, benchmarking against other workload models and engaging in consultations with trade union representatives **(AP 5.3)**.

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

The Teaching Curriculum of the School of Engineering is based on the students having a strong input from academics with daily contact hours scheduled between 09:00-18:00. The Curriculum is wide with supporting tutorials, laboratory and computing practise. To accommodate this, Team Teaching and academics defining their own “Office Hours” for student interaction is encouraged.

Team working in Research is also actively encouraged with academic staff either forming teams with each other or with their RAs and PhD students. This allows flexibility for attendance at meetings (some of which take place off-site) and in laboratory work.

To accommodate School meetings and social gatherings a calendar of events is published annually in July for the next academic year. Committee Chairs are encouraged to schedule meetings to be earlier in the day (and no later than 2pm) so that members are able to collect children from school, with advance notice to all Committee members. Members of staff are able to request either formal or informal flexible working arrangements (details of success rates are outlined in a subsequent section) and organise meetings appropriately. Women’s Networking meetings are held at lunchtime with lunch provided.

Large Academic and All Staff meetings are scheduled for Wednesday afternoons (when teaching duties are not required), and end at 4 p.m. Social gatherings generally take place on School premises within core working hours (and are organised and advertised in advance).

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

A School Cultural Awareness Survey (2010) highlighted a high degree of awareness of gender equality and diversity issues and the School was highly commended for being welcoming to women in all roles. 91% of participants recommended the School to women as a good place to work. The School’s ethos of a Positive Working Environment is also reflected in the 2011 Staff Survey: 80% of staff recommend the School as a good place to work and 83% are proud to work here. School scores were 6% above the University average for making reasonable adjustments relating to gender. In order to reassess the culture within the School, the HE STEM Gender Equality Culture Survey will be distributed **(AP 5.4)**.

An initiative to improve the working environment resulted in new informal meeting spaces for staff and students. Regular staff communication meetings were initiated by our former Head of School, Prof Karen Holford. Networks have been established for the School’s female academic staff and researchers, and senior female staff have made a strong contribution to the University’s Women Professors Forum. Several staff sit on the WISE in Wales Committee and one is the WES Council Student contact, ensuring a high profile for equality and diversity issues among staff and students. For example, initiatives are in place to further raise the profile of women researchers/academics, including greater visibility at UCAS days. Female staff are very active in public engagement activities to promote STEM. The majority of these initiatives were introduced in response to the recommendations made in the Cultural Awareness Survey 2010.

Women at all levels of their career are actively nominated for awards. School staff won the WISE Ambassador and Excellence Awards, and we nominated 2 finalists in this year’s IET Young Women Engineers Competition. A young woman who completed work experience in the School received the UK Young Engineer of the Year Award and an Inspire Wales Award, and has subsequently enrolled at Cardiff University.

Athena Swan is promoted through a broad working group led by Professor Phil Bowen. Official Athena Swan awareness sessions are planned, together with career development events and seminars focusing on work life balance issues **(AP 5.5)**.

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

The School is actively involved in a number of initiatives to encourage more girls to consider careers in engineering, foster an inclusive learning environment, and support female staff and students. These include: the aforementioned Dragonfly Days and Discover! Club (see page 7). In addition, the School also organised an engineering taster day for girls from local schools in

conjunction with Engineering Education Scheme Wales. This year the School was visited by the Welsh Government's Equalities Minister Jane Hutt (see page 7).

The School has won a number of awards for activities aimed at addressing the under-representation of women in engineering. Recently, a Research Associate and previously student in Medical Engineering received the Women's Engineering Society's prestigious Karen Burt Memorial Award for Chartered female engineers. This year another graduate of the School has won the Karen Burt Award for the best new graduate chartered engineer. In 2007, the ex-Director of School, Professor Karen Holford, was the recipient of the WISE Excellence Award for her contribution to engineering and commitment to supporting girls and young women in science and engineering. The School was also awarded Most Valued Partner Award by Careers Wales for promoting equality in engineering (2007).

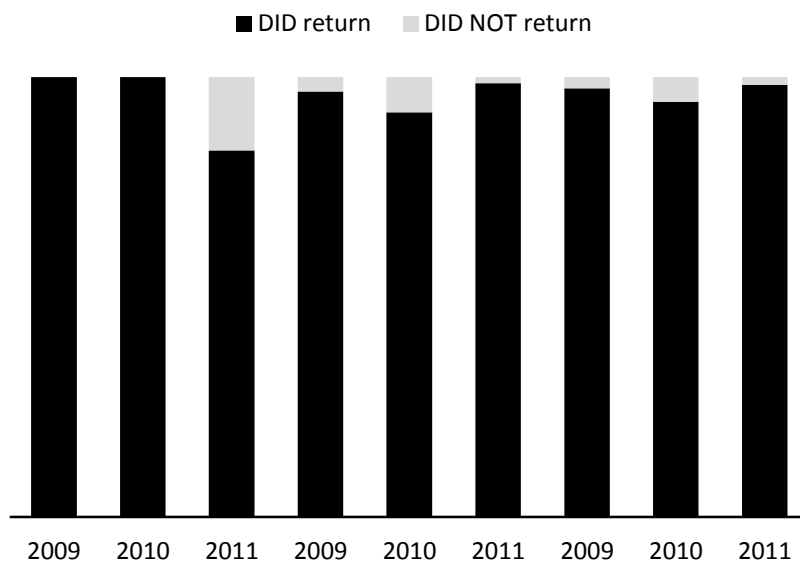
The ratio of male:female staff involved in outreach work is 50:50 which is excellent when compared to the male:female staff ratio. Outreach is considered to be extremely important to the School and is recognised in the School's workload model which feeds into the promotion process.

**Flexibility and managing career breaks**

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

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

*Figure 9 Engineering Staff Maternity leave data compared to SET schools and the University*



	ENGINEERING			SET Schools			University		
No. who went on Maternity Leave	4	2	6	61	50	72	119	107	118
Proportion who DID NOT return (%)	0	0	17	3	8	1	3	6	2
Proportion who DID return (%)	100	100	83	97	92	99	97	94	98

During the period of 2009-2012 the School of Engineering has had twelve academic staff members who have taken maternity leave; all but one have returned to their posts after maternity leave. This is consistent with previous years (2007 and 2008) where all of the four staff who took maternity leave returned. A women’s buddying group was set up in 2009, which was supported by the DoS. The group meets regularly and includes the majority of women staff in the school (grade 6 to chair level). A significant number of the members (70%+) have been on maternity leave and the group has a positive and supportive outlook to achieving a successful career and having a family.

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

The University operates a Work-Life Balance policy for the welfare of all staff which is promoted via “All Staff Meetings” which regularly take place to inform staff about current and future initiatives. Work-Life Balance initiatives are also introduced to all new staff members at the School and University induction.

In order to raise awareness of Work-Life Balance a school lunch time seminar will be organised to give staff additional information on the policy as well as the special leave options available **(AP 5.5)** and a guide to working practice leaflet will be developed for distribution to all staff members **(AP 6.1)**.

Uptake of paternity, dependent and adoption leave (Table 17) is greater amongst non-Academic and Research staff and has slightly decreased for women and increased for men over the three year period. The data suggests no significant change as the numbers are low.

*Table 17 Adoption, Dependents and Paternity Leave*

2009			Adoption		Dependant		Paternity	
Leave Type	F	M	F	M	F	M	F	M
Adoption Leave	0	0	0	0	15	6	0	1
Dependents Leave	15	6	0	0	0	0	0	3
Paternity Leave	0	4	0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0

2010			Adoption		Dependant		Paternity	
Leave Type	F	M	F	M	F	M	F	M
Adoption Leave	0	0	0	0	9	2	0	2
Dependents Leave	9	2	0	0	0	0	0	8
Paternity Leave	0	11	0	0	0	0	0	1
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0

2011			Adoption		Dependant		Paternity	
Leave Type	F	M	F	M	F	M	F	M
Adoption Leave	0	0	0	0	6	5	0	0
Dependents Leave	8	8	0	0	2	2	0	2
Paternity Leave	0	3	0	0	0	0	0	1
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0
			0	0	0	0	0	0

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

During 2009-2012 eleven requests for flexible working were made in a formal manner (8 male, 3 female) and in all cases these were granted (Table 18). In the majority of cases, flexible working was required for childcare arrangements and therefore requests were made to reduce or shift working hours around school hours. N.B. other staff members have flexible working arrangements which have been granted on an informal basis e.g. start and end time adjustments.

*Table 18 Approved flexible working requests*

2009	F	M	2010	F	M	2011	F	M
No. of requests			No. of requests			No. of requests		
Grade 3	1	0	Grade 3	1	0	Grade 3	0	0
Grade 4	0	0	Grade 4	0	0	Grade 4	1	0
Grade 5	0	0	Grade 5	0	0	Grade 5	0	0
Grade 6	0	0	Grade 6	0	0	Grade 6	1	1
Grade 7	1	0	Grade 7	1	1	Grade 7	0	1
Grade 8	0	0	Grade 8	1	0	Grade 8	1	0
Total	2	0	Total	3	1	Total	3	2

- b) For each of the areas below, explain what the key issues are in the department, what steps have been taken to address any imbalances, what success/impact has been achieved so far and what additional steps may be needed.
- (i) **Flexible working** – comment on the numbers of staff working flexibly and their grades and gender, whether there is a formal or informal system, the support and training provided for managers in promoting and managing flexible working arrangements, and how the department raises awareness of the options available.

The data presented in Table 18 shows that the number of staff working flexibly has risen each year. This trend is the same for female and male staff although the number is slightly higher for female staff. This could be attributed to the fact that flexible working arrangements are discussed with female members of staff prior to taking maternity leave.

Flexible working schemes are open to all and staff are made aware of this policy at their induction and at the “All Staff Meetings” which are held in the School. Centrally based training courses that cover Gender Equality and Work-Life Balance schemes are communicated to staff support networks throughout the University. School staff are informed and updated regularly via the School’s E&D Committee and regular All Staff Meetings. All staff are made aware of their right to request flexible working. All line managers have support from an HR Manager when considering



requests for flexible working and have been trained on flexible working policies as part of HR Appraisal Training.

The School Front Webpage has a direct link to Equality and Diversity, where further links to the initiatives described above can be accessed along with links for RCUK, Athena SWAN and other female networks described throughout this document. The link has been implemented as a direct result of interaction and engagement with the Athena SWAN initiative.

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

The nature of the cover is specific to a person's job role. When an academic staff member takes maternity leave, the Deputy Director (Teaching) allocates the teaching and administrative duties amongst existing staff members or employs a temporary staff member to cover the appropriate duties. Arrangements for the supervision of PhD students/RAs and research projects are made with other co-supervisors, second supervisors or co-investigators. When a research staff member takes maternity leave, the School generally "pauses" the project, however if this is not possible due to funder restrictions, another researcher is employed to continue the project.

In 2008 the School developed a maternity leave questionnaire to examine the impact maternity leave has on female academics. On two occasions, in 2008 and in 2012 female academics were asked to participate in this survey. There a 100% completed questionnaire rate, which constituted eight completed questionnaires by seven academic members of staff (one academic had taken two maternity leaves in this period). The majority considered that the School had been very supportive in the periods prior, during and post maternity leave and that the whole process was handled particularly well. The generous entitlement allowance at Cardiff compared to other UK University was acknowledged. Furthermore requests for flexible working arrangements had been handled in a timely, supportive and positive manner by the School. Most of the staff kept in touch by email and phone calls while some staff came into the school and used the KIT (Keeping in Touch) days.

The questionnaire was designed and formulated to give participants an opportunity to express suitable improvements as to how the School could enhance its present system. The few suggestions received can be summarised as the following:

- (i) it was stressful to be given new teaching on their return
- (ii) a reduced teaching/administrative load for a specific period on return was advisable.

These suggestions were given in the latter questionnaire (completed July 2012). Suggestion (i) is in the process of being passed to the School's Management Committee, E/D Committee and Head of School **(AP 6.3)**. Suggestion (ii) has now been implemented in the Workload Model which allows for a reduction in the teaching load for the semester in which they return to work in order to allow

the female academic to concentrate on research. This policy will be publicised to academic staff and relevant committees **(AP 6.2)**.

As mentioned previously there is a women's buddying group which has historically provided good support in relation to maternity leave issues.

In 2010 the University's crèche opening hours were extended (8:00 – 18:00) to help support the range of needs of staff and student members of the University and promote flexibility in the workplace.

#### **Section 4 word count 4758/5000**

##### **5. Any other comments: maximum 500 words**

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

##### **6. Action plan**

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

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

**Action plan attached.**

##### **7. Case study: impacting on individuals: maximum 1000 words**

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