Department Application

Bronze and Silver Award

ATHENA SWAN BRONZE DEPARTMENT AWARDS

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

ATHENA SWAN SILVER DEPARTMENT AWARDS

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

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

COMPLETING THE FORM

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

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

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

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

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

WORD COUNT

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

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

We have provided the following recommendations as a guide.

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

Name of institution	The University of Nottingham	
Department	School of Computer Science	
Focus of department	**STEMM**	
Date of application	November 2016	
Award Level	**Bronze**	
Institution Athena SWAN award	**Date: 2013**	**Level: Silver**
	Date: 2009	**Level: Bronze**
	Date: 2006	**Level: Bronze**
Contact for application Must be based in the department	Milena Radenkovic	
Email	milena.radenkovic@nottingham.ac.uk	
Telephone	0115 8467670	
Departmental website	http://www.nottingham.ac.uk/computerscience/	

1. LETTER OF ENDORSEMENT FROM THE HEAD OF DEPARTMENT

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

An accompanying letter of endorsement from the head of department should be included. If the head of department is soon to be succeeded, or has recently taken up the post, applicants should include an additional short statement from the incoming head.

Note: Please insert the endorsement letter **immediately after** this cover page.

Word Count this section	484

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Dear Ruth Gilligan,

As Head of School of Computer Science, I am delighted to endorse our Athena SWAN Bronze submission. Whilst currently holding a departmental Athena SWAN Bronze Award, awarded in 2013, we are submitting this application as a new submission under the Post-May 2015 Athena SWAN scheme.

We have made progress in the School since 2013, building on the strong foundations which were in place. Particularly, the Athena SWAN principles are now firmly embedded within the School with a strong and deep awareness among all staff, from all job families and across all grades. The SWAN agenda is explicitly driven forwards within the School's Equality, Diversity and Inclusion committee, linked to the University's EDI agenda through the Faculty structures (as detailed in Section 3).

For me, there are two particular achievements that I am proud to highlight. The first is the proportion of women in senior grades within the School. In 2012, only 3 out of the 20 female staff (15%) within the School held senior grades (grade 6 or 7). At the time of submission, this proportion has increased significantly to 6 out of 19 (~32%), including the appointment of a female Chair (level 7) into the School. The second is the proportion of postgraduate students in the School, which in the most recently available statistics stands at 37% for PGT and 31% for PGR students. These proportions are significantly above the generally accepted fact that there are only around 20% of females across Computer Science as a discipline.

Having presented these positive achievements, it is incumbent on me to also mention less positive areas. Again, there are two main ones for me. The first is that while female representation in senior grades 6 and 7 is very positive, as detailed above, we only have one grade 7 (full Professor) out of 19 females (~5%) compared to 13 / 87 males (~15%). The second is our proportion of female undergraduate students which, in marked contrast to our postgraduate proportions as above, remains disappointing at only 12%. Neither of these challenges is easy to address, but we have included specific actions within our plan and I am personally committed to exploring mechanisms for improvement through our EDI committee.

Overall, the School has an environment that is conducive to promoting the SWAN charter combining a female-friendly environment for students and staff with flexible and modern working practices to support, for example, parents with childcare commitments and for staff with specific flexible working requirements. Furthermore, the School has hosted and supported a number of activities which positively endorse the SWAN agenda such as the annual Women in Technology Conference, the 2013 BCS Women's Lovelace Colloquium, and the local #techmums initiative.

Finally, I emphasise the School's strongest possible commitment to upholding and promoting EDI in all its wider aspects, including equality of opportunity regardless of gender, ethnicity, disability or sexual orientation. I hope our submission meets with your approval.

Yours sincerely,

Professor Jon Garibaldi
Head of School of Computer Science

2. DESCRIPTION OF THE DEPARTMENT

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

The School of Computer Science, University of Nottingham, was established 30 years ago and is firmly established as an international centre for Computer Science research. Our world-leading research tackles difficult real-world problems that often have high impact on industry, commerce and the public. It involves a shared ethos of 'computing in the world' in which fundamental advances in Computer Science are connected to knowledge and methods from other disciplines to enable deep collaborations with research users in diverse sectors.

2.1. People

Across the School, 106 academic staff work in teaching and research. In total around 900 taught (undergraduate and postgraduate) and research students develop their skills and understanding, and contribute to the research output of the School. A team of 21 dedicated technical and administrative professional staff supports academic staff and students. Table 1 below summarises the gender balance across these three groups.

Table 1 Total number of academic staff, professional administrative staff and students by gender.

Academic staff		Professional staff		Students	
Female	**Male**	**Female**	**Male**	**Female**	**Male**
19	87	15	6	196	709

We provide a friendly, modern and supportive teaching environment, which consistently leads to a high proportion of our students gaining excellent degree results. Our students voted us the best department in the University in 2014 and 2015.

Figure 1 Graduation Tea (left) and Dr Gail Hopkins awards a student prize (right).


Figure 2 Dr Milena Radenkovic, Chair of Athena SWAN SAT in discussion with a student (left) and staff and students at CS's Staff Oscar Award in 2014 (right).

We hold a departmental Athena SWAN Bronze Award, awarded in 2013.

2.2. Research groups and the Horizon Institute

We organise our research through seven research groups who cover many sub-disciplines of Computer Science. Our research covers a diverse range of interdisciplinary areas, informs our teaching and has strong links with industry. The following research groups are established in the School.

Table 2 Research Groups

Agents Laboratory
Automated Scheduling, Optimisation and Planning Group (ASAP)
Computer Vision Laboratory (CVL)
Data-driven Applications and Systems (DAS)
Functional Programming Lab (FPL)
Intelligent Modelling and Analysis (IMA)
Mixed Reality Laboratory (MRL)

All academic staff are member of at least one research group. Groups have a distinct identity (e.g. through their web presence), and via their staff also maintain active involvement in the School, particularly through teaching and School management. Research within the groups is framed by School wide principles and processes that include for example Athena SWAN, research support infrastructure including support for generating funding and the common ethics procedures.

In additional to research groups within the School, there is the Horizon Digital Economy Hub, an interdisciplinary institute which includes a centre for doctoral training (CDT).

2.3. Facilities

We are proud of the facilities that we provide to staff and students. In 1999, the School moved to newly completed Jubilee Campus. Beyond the CS building, this includes multiple food outlets, lecture rooms, a dedicated library and landscaped grounds including a lake.

Figure 3 CS building (left) and Djanogly Learning Resource Centre (right) in the background

The School continues to invest in keeping its estate up to date and we currently provide 24-hour access to the building, study space for group work and private study areas.

Figure 4 CS Atrium (left) and The Ada Lovelace Computer Science Laboratory (right)

Figure 5 The Ada Lovelace main computing lab (left) and Dr Julie Greensmith with a student in a bookable Pod (right).

In addition, a variety of computing labs with differently equipped workstations and external remote full desktop access provides access to the computer science teaching environment from personal and desktop services. This allows for very flexible and off-site working practices.

Word Count this section	438

3. THE SELF-ASSESSMENT PROCESS

Recommended word count: Bronze: 1000 words | Silver: 1000 words

(i) A description of the self-assessment team

The Athena SWAN self-assessment team (SAT) was set up in September 2012. Professor Jon Garibaldi (Head of School) and Dr Milena Radenkovic co-chair the SAT and have overall responsibility for Athena SWAN activities. The Head of School ensures that Equality, Diversity and Inclusion are embedded within all School activities and that the SAT is enabled to enact change by making recommendations to the School Management Team. The team has currently has 14 members (10 females and 4 males). The table below outlines the composition of the SAT, members' roles, and their relevant experiences.

Table 3 The Constitution of the Athena SWAN Self-assessment team SAT

Name	*Gender*	*Full time or part time*	*Role in School*	*Role in SAT*	*Description*
Milena Radenkovic	*F*	*FT*	Assistant Professor	Chair and overall co-ordination Data analysis Reporting	Milena joined the School in 2003, and was appointed to the SAT in 2014. She has a partner and one child.
Jon Garibaldi	*M*	*FT*	Professor Head of School	Co-Chair Liaison with CS management structure	Jon joined academia in 1999 and the School in 2002, where he is now Head of School. He is married with three teenage children.
Julia Cousens-Smith	*F*	*PT*	Director of Operations *New Member*	Management representative Liaison with CS management structure Reporting	Julia joined the School in 2016, working 0.8FTE. She is married to a full-time academic and they have a teenage child.
Rong Qu	*F*	*FT*	Associate Professor On sabbatical Semester 1 2016	Academic representative. Surveys	Rong has been an academic in the School since 2005. She is married, with one school age daughter.
Sarah Martindale	*F*	*FT*	Research Fellow CDT Training Programme Manager	Research staff representative Surveys Outreach	Sarah is a Research Fellow in Horizon. She has worked flexibly since her daughter started school and her husband returned to full-time employment.
Holger Schnädelbach	*M*	*FT*	Senior Research Fellow	Senior research staff representative Focus Groups Reporting	Holger has worked in the Mixed Reality Lab for 16 years. With his partner, he cares for two school-age children.
Graham Hutton	*M*	*FT*	Professor Head of Functional Programming Lab Director of Staff Development	Senior academic representative Data analysis Reporting	Graham has been in the School since 1995. He is married with two boys, and enjoys cars, cooking, and football.

Name	*Gender*	*Full time or part time*	*Role in School*	*Role in SAT*	*Description*
Boriana Koleva	*F*	*PT*	Associate Professor Director of Teaching	Mid-career academic representative Focus Groups	Boriana has worked in the School for over ten years. She currently works 0.8FTE, since returning from her second maternity leave.
Sam Stapleford-Allen	*F*	*FT* *Maternity Leave from Summer 2016*	Research Administration Officer	Administrator representative Athena SWAN meeting minutes	Sam works in the School's Research Support Office and is currently on maternity leave with her first child.
Gemma Singleton	*F*	*FT*	School Operations Assistant *New member*	Administrator representative Athena SWAN meeting minutes and website	Gemma lives with her partner, enjoys visiting family during weekends, and is currently volunteering for the charity Scope.
Pepita Stringer	*F*	*FT*	PhD Student	Research Student representative Reporting	Pepita's PhD studies focus on patients' perspectives of sharing long health data. She has worked in Nottingham as a Mental Health Nurse.
Mercedes Torres Torres	*F*	*FT*	Transitional Associate Professor *New Member*	Early Career Academic Representative Data Analysis	Mercedes has just been appointed to her permanent post in 2016. In her spare time, Mercedes enjoys reading, travelling, cooking and running.
Alexandra Patrascu	*F*	*FT*	PhD Student	Research Student representative	Alexandra, undertaking a PhD in optimisation algorithms, is interested in female representation in STEM fields, being a founder member of two ACM-W Student Chapters.
Hamzah Abdulla	*M*	*FT*	UG student	Taught student representative	Hamzah is President of the UoN Computer Science Society. He is a regular School Ambassador on Open Days and student representative for SWAN.

Naturally, membership of the SAT shifts over time, with staff being assigned different responsibilities and students leaving. This is a necessary and useful process to keep the working group effective. Selection of team members is by proposal from within the group and via the Head of School, approaching individuals who bring specific needs (e.g. a researcher representative), skills and experience.

All groups of people working and studying in the School are represented in the SAT: Taught Students, Research Students, Research Staff, Academic Staff and Support Staff. We have taken care to represent different grades within the job families where possible and this is reflected in the membership listed in Table 3.

(ii) An account of the self-assessment process

The Self-assessment team, its context and remit

The SAT works within the following remit:

- To discuss, initiate and implement School gender equality practices and procedures in line with Athena SWAN principles.
- To identify and address specific gender equality issues identified that have potential impact for School institutional best practice through surveys and focus groups.
- To monitor and report key data (e.g. staff, student, recruitment, meeting times) for the School, measure progress and ensure action plan targets were being met.
- To develop policy recommendations, such as a new staff recruitment strategy, for consideration by the School Management Board.
- To develop methods for embedding equality and healthy culture within the School such as effective and targeted mentoring, and transparency in the workload model.
- To keep the Faculty Equality Diversity and Inclusion (EDI) Committee and WiN group (see below) informed of progress and alert them when action is required.

The Athena SWAN SAT in relation to the University management structures

The CS Athena SAT is deeply embedded in the wider decision making structures of the University as outlined in **Figure 6**. The CS Athena SWAN SAT communicates directly with the Faculty EDI Committee and with the Women In Nottingham (WiN) group. The Faculty EDI committee is chaired by the Pro-Vice Chancellor for Science and has EDI/SAT representatives from all Schools within the Faculty, along with HR representatives, and reports through its Chair to University Executive Board. The role of the committee is to develop and support EDI activities, liaising with the University.

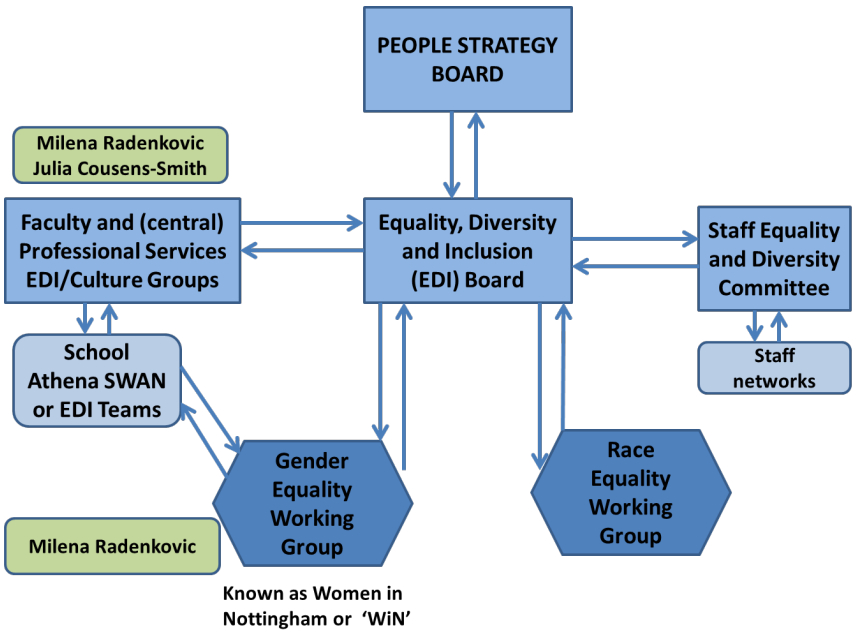

Figure 6 The CS SAT and its communication context

WiN is our cross-departmental 'community of practice' for gender equality at UoN. It includes representatives from central teams and all departmental SATs. WiN facilitates knowledge exchange (including good practice and learning from award application processes) and resources. WiN reports to the University Athena SWAN Board (ASB) directly. This is led by the Associate Pro-Vice Chancellor for EDI, and the new People & Culture team as conduits.

The main WiN working group meets quarterly, and has five subgroups also meeting and collaborating regularly. At-least-monthly WiN bulletins, comprising contributions from across the membership, disseminate news both specifically about Athena SWAN and more generally about gender / intersectional equality at the University and sectorally / nationally. These bulletins go to both WiN and ASB members.

The School works closely with these structures to ensure EDI awareness and activities are supported and championed:

- Dr. Milena Radenkovic is the Co-Chair of the School SAT and sits on the WiN group, Faculty EDI committee and Parental Working Group.
- WiN members contributed the examples of good practice mentioned throughout this document, which have led to development of institution-wide actions.
- Developments and proposals from the School of Computer Science also influence developments in WiN and are available to other SATs at the University.

The Athena SWAN SAT in relation to CS management and reporting mechanisms

The self-assessment team is integrated with the School management structure as outlined in **Figure 7**, reporting directly to the School Management Board. The Head of School, the Director of Operations and Director of Teaching are all members of the SAT.

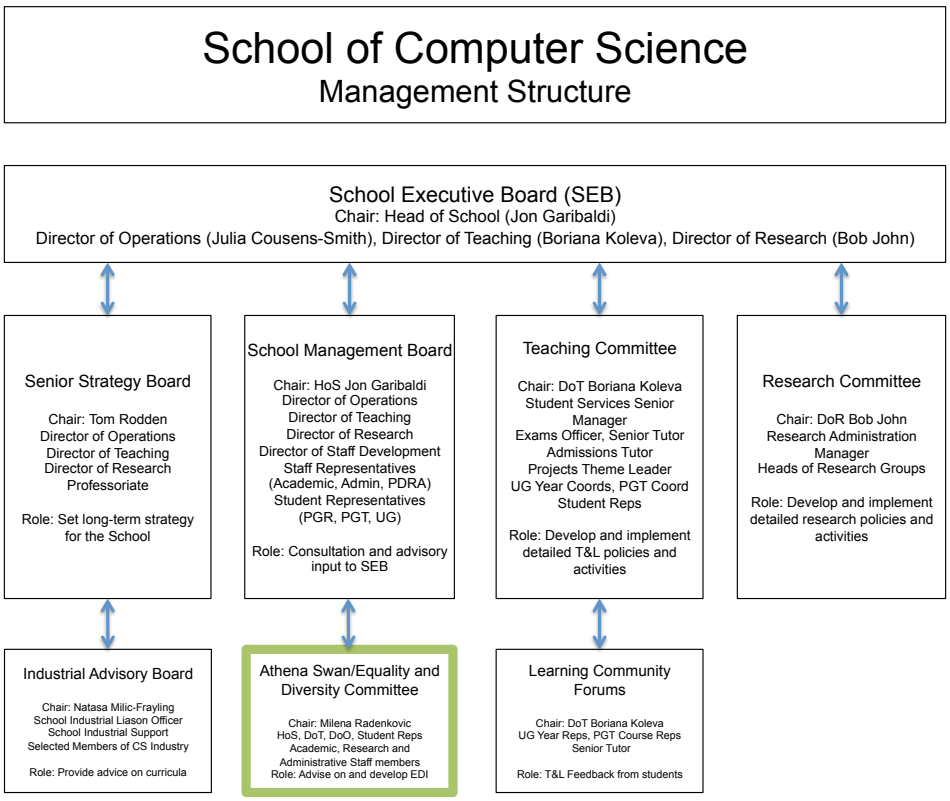

Figure 7 The high-level management structure of the School of Computer Science

The activities of the self-assessment team

The CS SAT has held meetings quarterly since 2012. During the early meetings, the gender balance in the School and wider issues of work life balance were discussed. Initial data collection in the School (e.g. surveys, focus group) were drawn on to inform the group. From 2015, regular meetings have addressed wider topics on EDI. We have also been making significant changes to the SAT activities and membership, ensuring stronger communications, greater representation, transparency and more accountability. The minutes of the meetings have been shared via a dedicated mailing list as well as on our Athena SWAN website (see **Figure 8**) to improve transparency and raise awareness across the School.

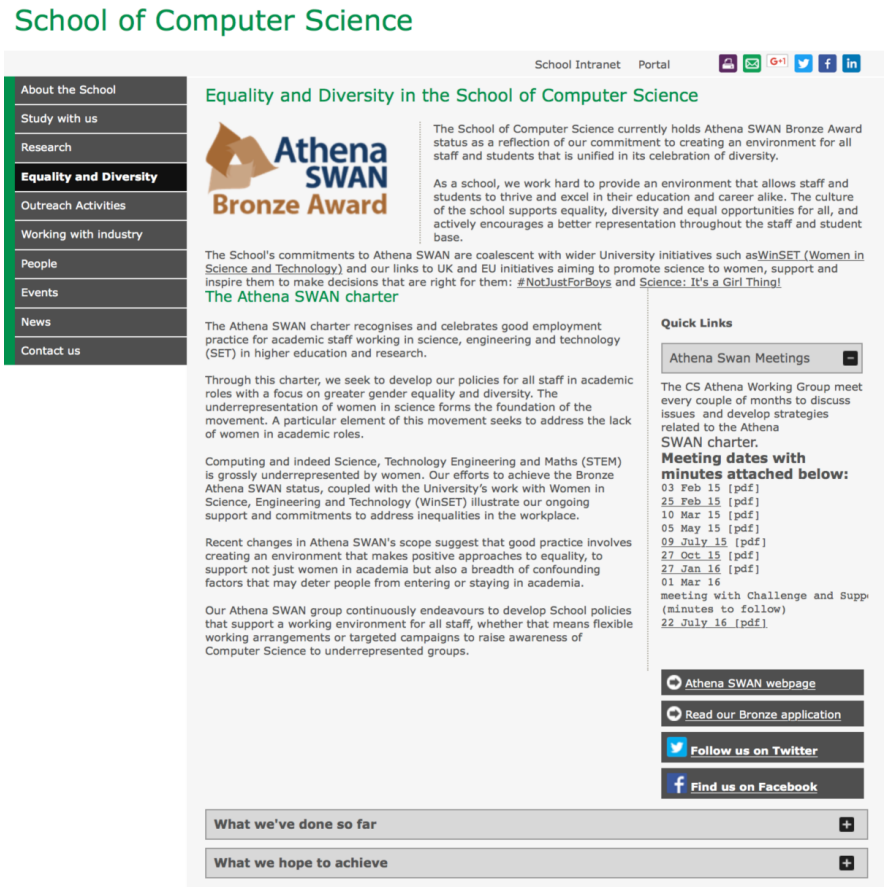

Figure 8 The School of Computer Science Equality and Diversity section of the web page, detailing the aims of Athena SWAN and and activities of the Self Assessment Group

In addition, more frequent meetings are held in working subgroups, addressing specific challenges in the build up to this application, and beyond. Among other things, these meetings developed the information gathering process briefly outlined below (and underpin the analyses in section 4).

Staff and Student surveys were held in 2012 and 2015/16 to understand current experiences with and attitudes towards gender equality in the School. These were analysed and discussed in the SAT, and the School more widely. Issues raised in these surveys were further probed through follow-up focus groups. In parallel to the above, staff and student data provided by the University has been continuously monitored and analysed, directly contributing to the current action plan presented in Section 8.

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

In future, the self-assessment team will meet quarterly, via the School EDI Committee, to review and monitor the implementation of the action plan. Following submission the School will review committee membership to help take forward EDI initiatives across all staff and student groups. The inclusion of new members brings in fresh ideas and helps to embed and promote good practice. All members of the team are expected to act as Athena SWAN 'ambassadors' and to represent the Department at appropriate meetings. The School's Athena SWAN Action Plan will be reviewed on an annual basis by the Faculty EDI Committee, which is in place to support School EDI initiatives and SATs. The Faculty EDI Committee has an agreed annual action plan which includes the establishment of Faculty Data Champions for EDI to complete collation of an annual dataset including staff and student information.

Word Count this section	1052

4. A PICTURE OF THE DEPARTMENT

4.1. Student data

In what follows we present data about the student population of the School, trends in that data, summaries of more detailed analysis, and make links to the actions proposed.

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

N/A

(ii) Numbers of undergraduate students by gender

The latest available data (2014/15) shows that 88% of students were male and 12% were female, as illustrated in Figure 9. This also shows that over the last five available data sets there has been a gradual drop in the proportion of female undergraduates from 19% in 2010/11.

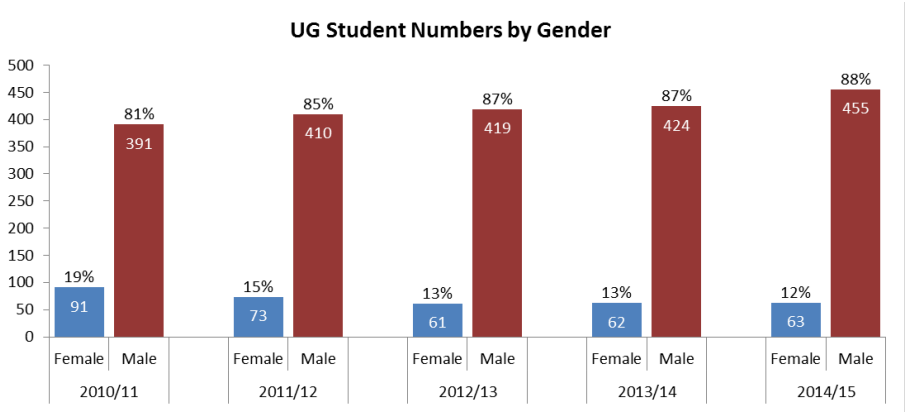

Figure 9 Numbers of undergraduate students by gender for the academic years 2010/11 to 2014/15

In trying to understand the low female UG enrolment rate, and to see whether there is gender bias in our application processes, we studied UG applications, offers and accepts by gender over the period, shown in Figure 10 and Figure 11. The graphs below report total numbers and gender balance of applications in the first column for each year. Percentages for offers and accepts are then calculated within the separate female and male student body, in the 2nd and 3rd columns, respectively.

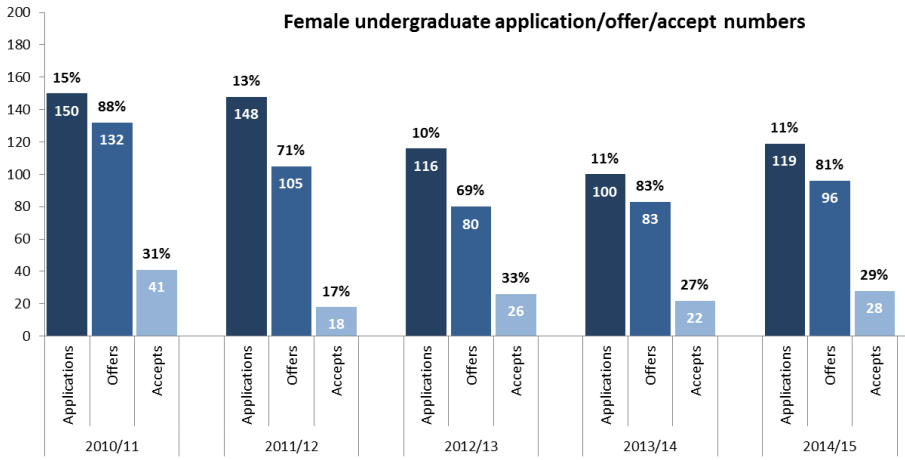

Figure 10 UG applications by females, offers made and accepts from 2010/11 to 2015/16

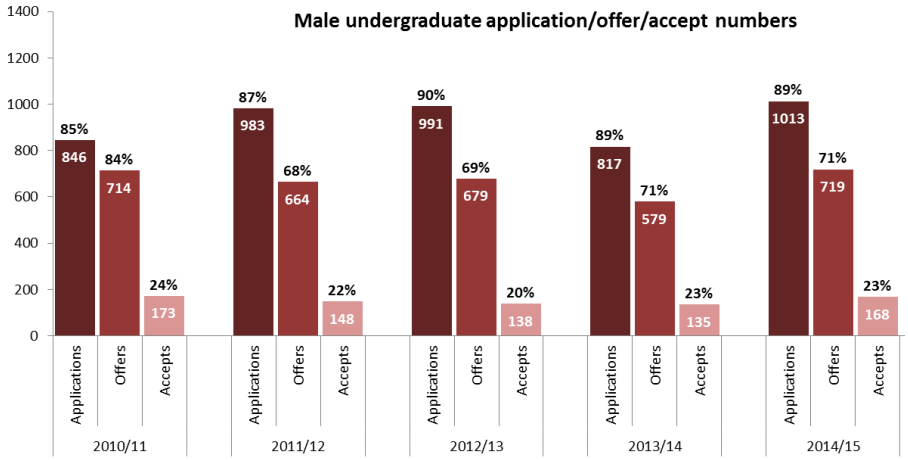

Figure 11 UG applications by males, offers made and accepts from 2010/11 to 2015/16

The percentage of female UG applications drops from 15% in 2010/11 to 11% in 2015/16 (for benchmarking see section v). We considered the potential impact of changes to courses and modules offered in the period (e.g. withdrawal of Robotics and Maths with CS). We do not believe that these have caused the decline in female applications, but cannot currently identify another reason. It is difficult information to acquire, as decisions to not apply usually occur before students are in contact with us.

Over the five years, the proportion of female enrolment is higher than the proportion of female applications. On average, the chance of being made an offer is also slightly higher for females than for males. Both these point to a very slight bias in favour of females during the recruitment process.

Table 4 illustrates UG degree attainment and classification in the period. For the first four years, attainment by females is on average lower than attainment for males.

Table 4 UG degree attainment and classification 2010 – 2015 by gender. For each year, the first row presents the number of students against the degree classification attained. The second row presents the proportion of females and males respectively attaining a particular classification.

Degree	1st		2:1		2:2		3rd		Pass	
Gender	F	M	F	M	F	M	F	M	F	M
2010-11	5	27	12	38	12	36	3	9	1	3
	15.2	23.89	36.4	33.63	36.36	31.86	9.09	7.96	3.03	2.65
2011-12	6	25	14	37	13	32	2	4	2	7
	16.22	23.81	37.84	35.24	35.14	30.48	5.41	3.81	5.41	6.67
2012-13	5	24	6	54	4	10	2	7	0	4
	29.41	24.24	35.29	54.55	23.53	10.10	11.76	7.07	0.00	4.04
2013-14	4	28	4	49	8	15	1	3	1	5
	22.22	28.00	22.22	49.00	44.44	15.00	5.56	3.00	5.56	5.00
2014-15	9	35	13	41	1	20	0	7	1	2
	37.50	33.33	54.17	39.05	4.17	19.05	0.00	6.67	4.17	1.90

Combining 1st and 2:1 classifications, an average of between 44% and 64% of females achieved a 'good' degree in the first four years. In this period, an average of between 57% and 79% of males achieved a 'good' degree. This is reversed for the final year, 2014-15, when 92% of females and 72% of males achieved a 'good' degree.

Numbers of females are low which might explain the large variations in percentages to some extent (e.g. for 2013-14). So, it's not clear whether we are now seeing sustained improvement, and this needs further investigation.

ACTION POINT 1.1 INVESTIGATE FURTHER DEGREE ATTAINMENT FOR MALE AND FEMALE STUDENTS AND ANALYSE MODULE DATA FOR GENDER STATISTICS TO DETECT EMERGING PATTERNS AND GIVE EARLY WARNING TO CONCERNS

Reflecting on these data, our key issue is low female UG applications (leading to low enrolment). We have outlined that we cannot find a bias against women in the UG recruitment process (nor anywhere else in the student recruitment process). The key challenge is therefore to increase female UG application rates, which is difficult because most decision making in this regard is made before contact with the School.

This issue should be interpreted in the wider UK context. It is a national priority to get more young people taking STEM subjects at A level in order to address a serious skills gap that threatens UK competitiveness. This is the message of the Your Life campaign: http://www.yourlife.org.uk/. Figures reported there indicate that A level participation in more than two STEM subjects is 33% for male students and 19% for female students. A key initiative, Stemettes, to encourage more female participation in tech, is led by Anne-Marie Imafidon, who was the guest speaker at our Ada Lovelace Day this year.

We have put a number of measures in place to try to address this:

- We have carefully reviewed our marketing literature and Open Days and found no unconscious gender bias in publicity materials or activities.
- All Open Days have at least one academic female staff member in attendance.
- All Open Days have a proportion of female student helpers above the enrolled proportion.
- Computerphile YouTube channel which has contributions from female role models such as Sue Black founder of BCS Women.
- Outreach is a compulsory component of the Horizon CDT programme, so our PhD students participate in lots of activities that promote CS subject areas, e.g. Pint of Science, Into the Future.
- The School is increasingly supporting events such as HackNotts, an annual hackathon event for school and University students.

ACTION POINT 1.2-1.5 CONTINUE TO MONITOR, ANALYSE AND ACTION RECRUITMENT AND OUTREACH ACTIVITIES TO ADDRESS GENDER BALANCE IN UG STUDENT POPULATION

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

The proportion of female taught postgraduate students has remained constantly above 30% for full time students, increasing to a high of 37% for 2015/16, see Figure 12.

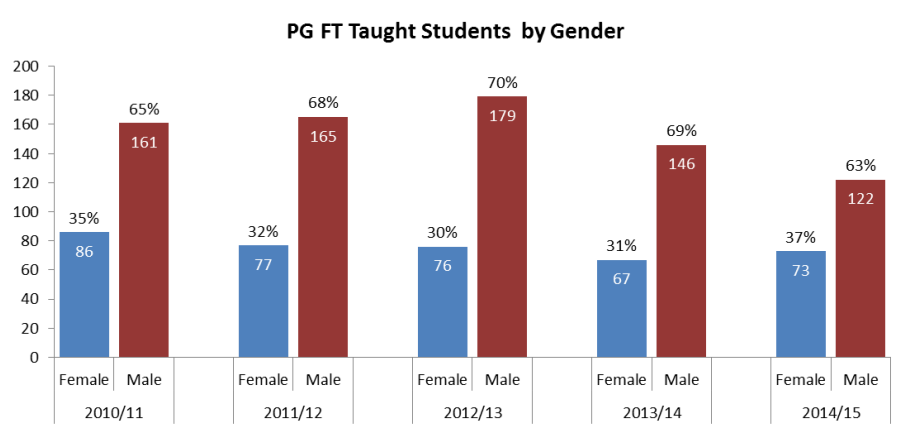

Figure 12 Full-time (FT) postgraduate taught students by gender for the years 2010/11 to 2014/15

Even though PGT female enrolment percentages are much higher than for UG, we still wanted to see whether there is gender bias in our application processes. We studied PGT applications, offers and accepts by gender over the period, as shown in Figure 13 and Figure 14 (presenting similar data to Figures 10 and 11).

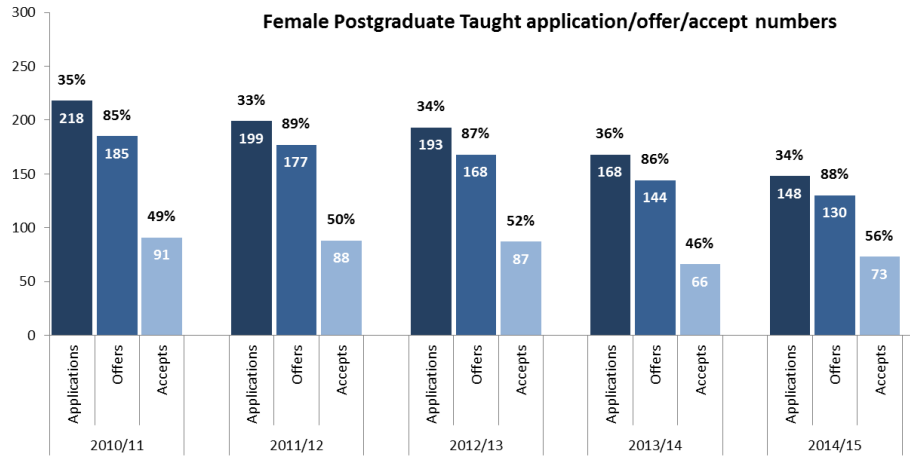

Figure 13 PGT applications by females, offers made and accepts from 2010/11 to 2014/15

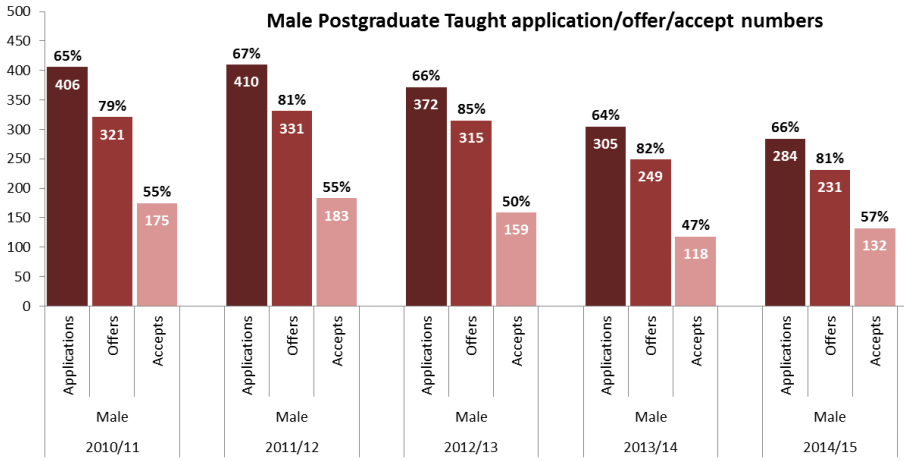

Figure 14 PGT applications by females, offers made and accepts from 2010/11 to 2014/15

The percentage of female PGT applications hovers around 34% in the period, with enrolment being broadly similar (see benchmarking in section v). The chance of being made an offer is slightly higher for females than for males. We do not see a meaningful gender bias in our application processes.

Our PGT students are nearly exclusively international, with almost no feed-through from our UG to our PGT courses. There are multiple reasons for this. For Home-EU students, the lack of available funding means that students complete their studies with a BSc or enrol directly on our four-year MSci (UG) courses. In addition, we observe that students who are seeking to study for a separate MSc (PGT) tend to choose to gain a degree from a different institution. At the same time, our MSc course offers an attractive route for international students and students from non-CS backgrounds to gain a qualification from a Russell Group university in a single year.

Our analysis of completion times of PGT courses showed no significant difference between females and males, as illustrated in Figure 15.

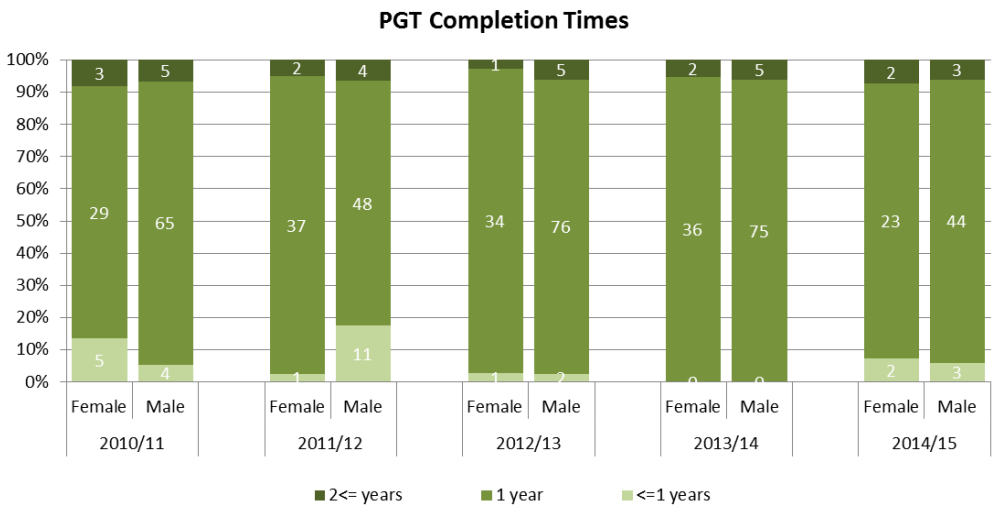

Figure 15 PGT PGT completion times by gender for the years 2010/11 to 2014/15

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

The proportion of female students undertaking full time research degrees has increased from 2010/11 and at over 30% has been continuously above the national average of 24%, see Figure 16 and benchmarking in section v.

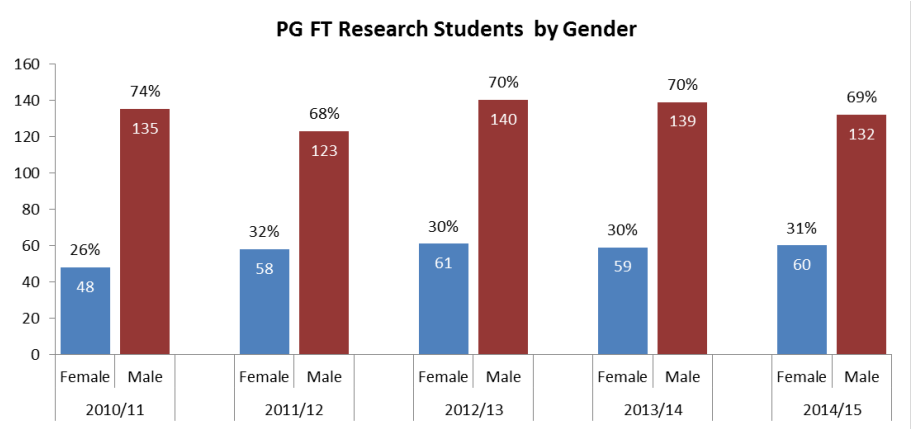

Figure 16 Full-time (FT) postgraduate research students by gender for the years 2010/11 to 2014/15

Although numbers are small, the overall number of PGR students undertaking part time research degrees has decreased from 10/11 to 14/15. As a School, we have focussed on encouraging full-time PGR study, simply because we have experienced low completion rates for part-time PGR study. This is done through focused mentoring of applicants so they fully consider the consequences of part-time study. As shown below, there is no evidence to suggest this course of action has deterred female applications.

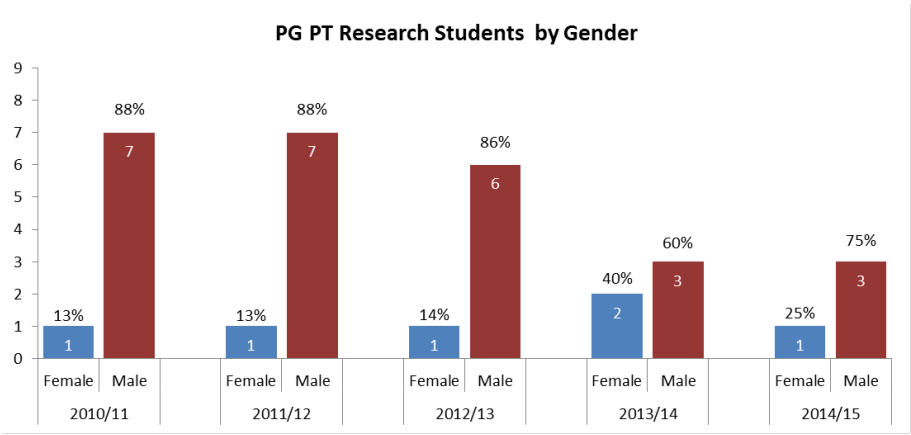

Figure 17 Part-time (PT) postgraduate research students by gender for the years 2010/11 to 2014/15

Regardless of the high proportion of female PGR students, we wanted to check for possible bias in our application procedures. We studied PGR applications, offers and accepts by gender over the period, as shown in Figure 18 and Figure 19.

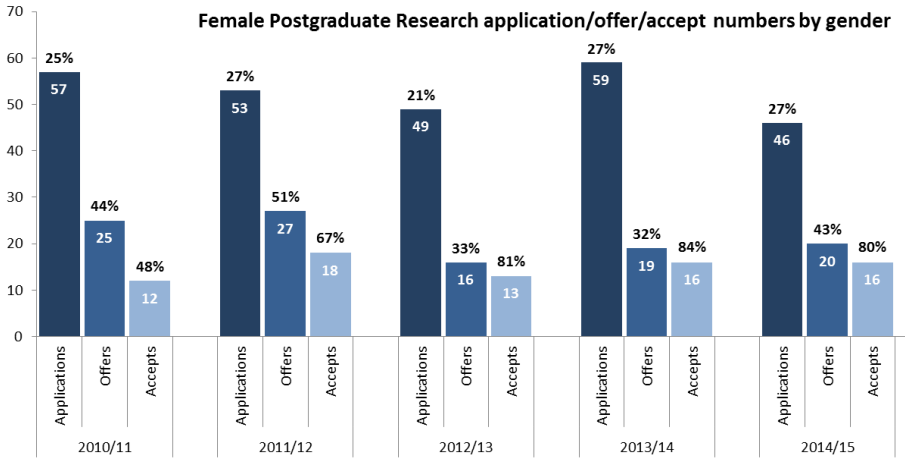

Figure 18 PGR applications by females, offers made and accepts from 2010/11 to 2014/15

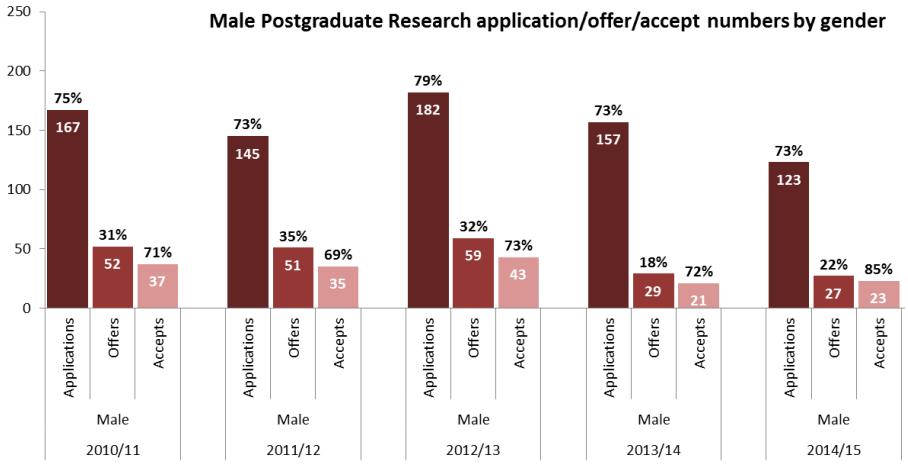

Figure 19 PGR applications by males, offers made and accepts from 2010/11 to 2014/15

The percentage of female PGR applications hovers around 25% in the period, with enrolment being consistently higher than this. The chance of being made an offer is noticeably higher for female PGR students, being around the 43% mark, versus roughly 30% for males. Acceptance rates appear broadly similar. We can detect a modest bias in favour of women during the PGR application process.

One reason for the proportion of females doing a PGR degree may be the Horizon Centre of Doctoral Training (EPSRC funded). Due to the highly interdisciplinary nature of this programme, it regularly attracts students from various non-CS backgrounds having a higher proportion of females.

ACTION POINT 2.1 - 2.2 CONTINUE TO ANALYSE GENDER BALANCE IN PGT AND PGR STUDENTS

Our analysis of completion times for PGR students shows a mixed picture that is difficult to interpret, as no clear pattern emerges. Across the five years, males are completing more often within 4 years, the target length for PhD. In the last three years, an

increased proportion of males have taken up to 6 years to complete, while fewer women take that long.

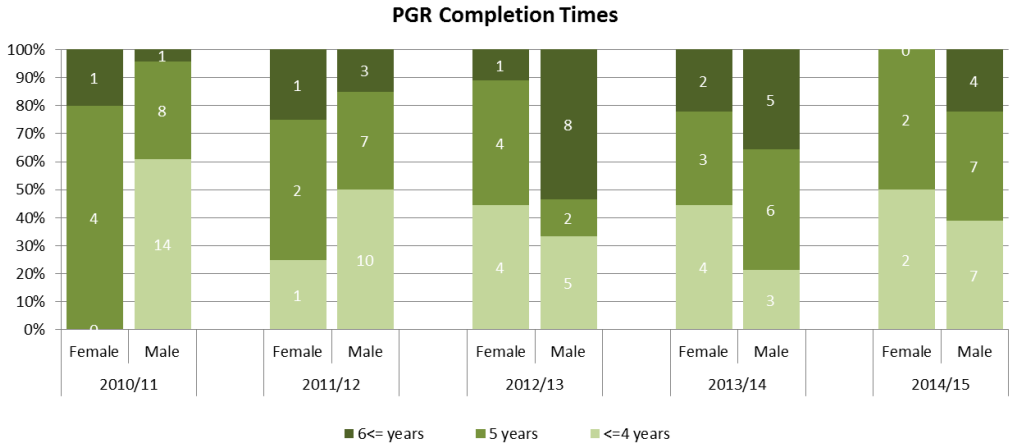

Figure 20 PGR completion times by gender for the years 2010/11 to 2014/15

In August 2012, the School introduced the role of Post Graduate Research Student Advisor, who has been focussing and advising on timely delivery of theses.

ACTION POINT 2.3 CONTINUE TO EVALUATE PGR COMPLETION TIMES TO ENSURE THERE IS NO ISSUES WITH RESPECT TO GENDER BIAS

(v) Progression pipeline between undergraduate and postgraduate student levels

While our proportion of UG females is low, the proportion of females in PGT and PGR study is substantially higher. As a first step, it is important to put this into context.

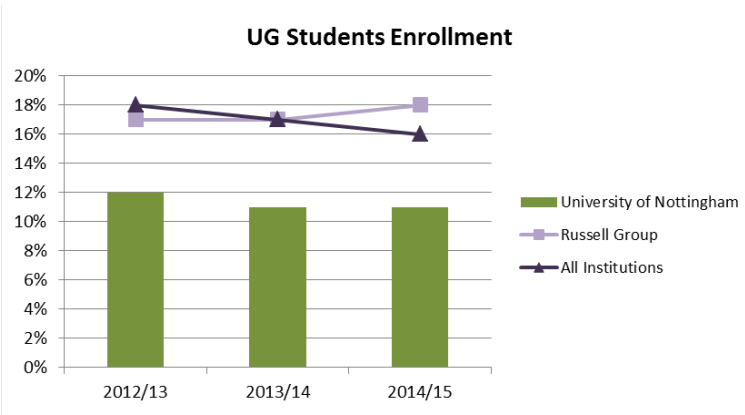

Figure 21 Proportion (in %) of female students at CS University of Nottingham benchmarked against Russell Group Universities and against all UK universities offering CS UG courses (From HESA data)

When benchmarking the female:male UG student ratio against other institutions offering CS in the Russell Group, it is clear that we fare worse. The graph in Figure 21 shows Russell Group Universities enrolling around 17% female UG students over the

last three years (for which benchmarking data was available), whereas our average is 11.3%.[1] We believe that one important factor in the above could be the fact that CS at UoN focuses on 'core' Computer Science (and Artificial Intelligence) in our undergraduate offer. Other Russell Group departments (e.g. Manchester) offer a wider range of courses with broader focus, some of which may be more attractive to females. Thus, direct comparisons at departmental level are difficult.

For PGT, the picture is quite different. Over the last three years, for which data were available, we have consistently outperformed other universities in the sector, as shown in Figure 22.

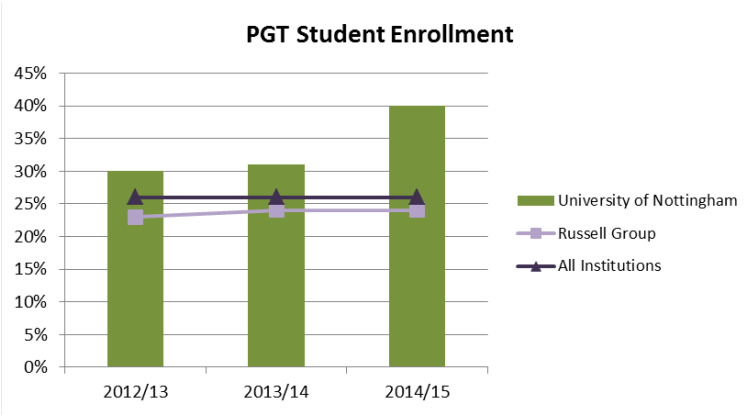

Figure 22 Proportion (in %) of female PGT students at CS University of Nottingham benchmarked against Russell Group Universities and against all UK universities offering CS PGT courses (From HESA data)

For PGR, CS Nottingham also consistently outperforms both the Russell Group and all other universities in the sector, as shown in Figure 23.

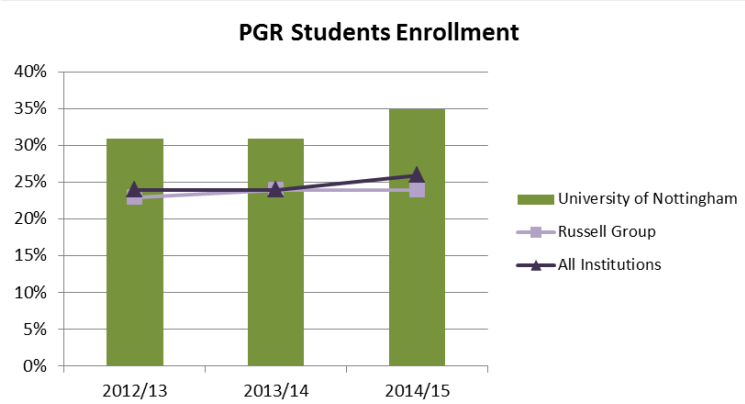

Figure 23 Proportion (in %) of female PGR students at CS University of Nottingham benchmarked against Russell Group Universities and against all UK universities offering CS PGR courses (From HESA data)

Finally, we want to specifically highlight the support given at PGR level. The School has supported over 45 female PGR students between 2011 by providing scholarships, including through schemes for international and EU students.

[1] As these data are provided directly by HESA, they differs slightly from our internal data, which we have used throughout so far.

Overall, our proportions of female PGT and PGR students is very healthy, in contrast to our UG proportion. At the same time, our internal progression pipeline from UG to PG study is relatively weak, with the vast majority of our PG student population being recruited externally.

ACTION POINT 2.4 UNDERGRADUATE TO POSTGRADUATE STUDENT PROGRESSION AND PIPELINE

4.2. Academic and research staff data

We present data about the staff of the School, trends in that data, and the actions proposed to address issues found.

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

Around 20% of teaching, research and teaching and research staff in the department are female, and this has been stable over the last five years, as illustrated in Figure 24. This is broadly similar to the national and international context in Computer Science, generally acknowledged to be around 20% female.

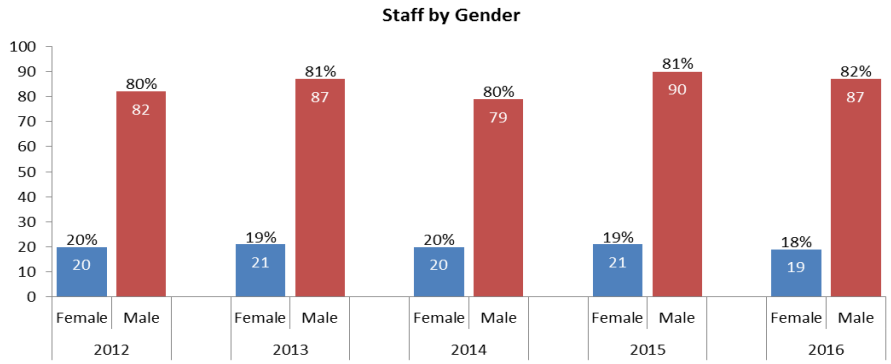

Figure 24 Staff by gender between 2012 and 2016

Figures 25 and 26 show the relative yearly distribution according to job grade by gender. Whilst in 2012, only 3 of 20 females (15%) were at senior grade (6 or 7), by 2016 this proportion had risen significantly to 31.6% (6 of 19). This proportion is actually higher than for males, for which it is 27.6% (24/87). The proportion of female at grade 7 remains disappointing at only 5.3% (1/19) compared to 14.9% of males (13/87).

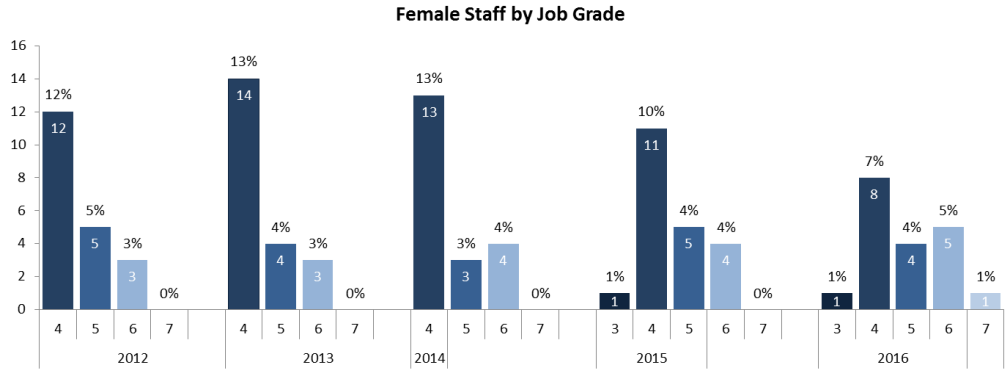

Figure 25 Female staff by job grade 4-7 between 2012 - 2016

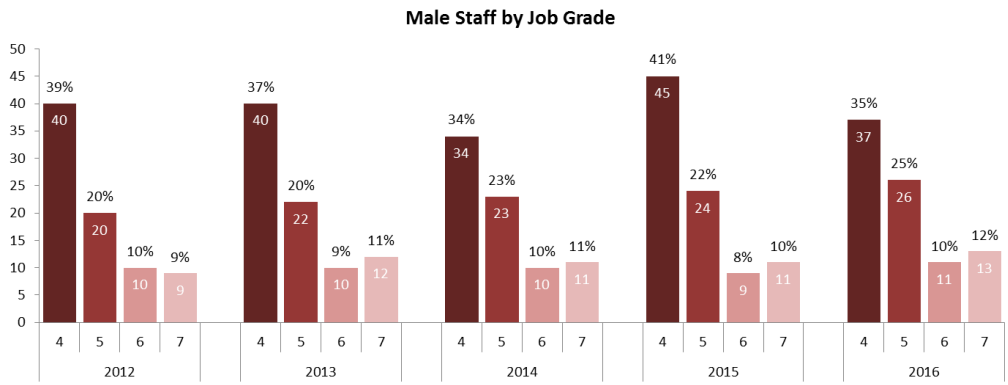

Figure 26 Male staff by job grade 4-7 in 2012 - 2016

Figure 27 and Figure 28 show the distribution of job family by gender, demonstrating similar distributions for each.

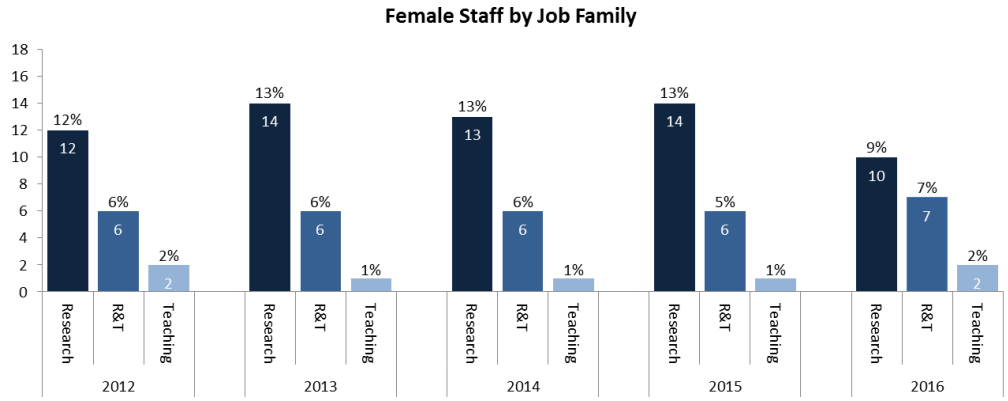

Figure 27 Female staff by job family Research, R&T and Teaching from 2012 - 2016

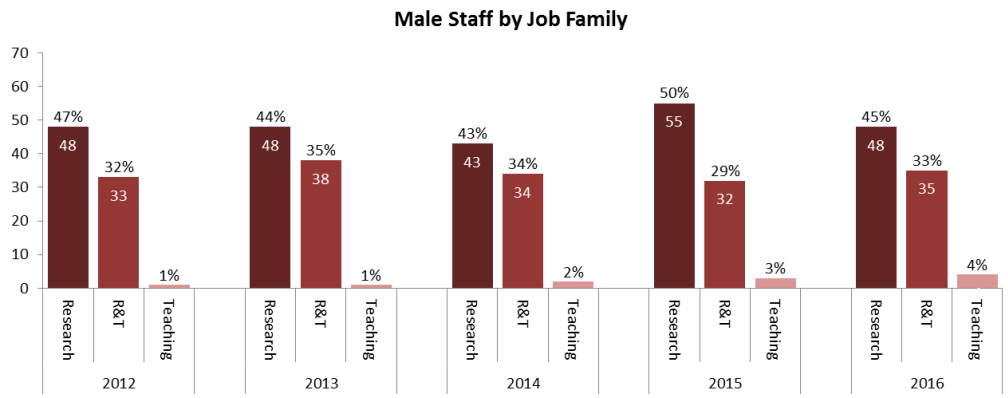

Figure 28 Male staff by job family Research, R&T and Teaching from 2012 - 2016

Most CS staff are in full-time (FT) employment. As Figures 30 and 31 demonstrate, the proportion of part-time (PT) workers varies from 1% to 11% across the genders. No clear pattern is emerging, with male and female staff taking up PT employment to a similar extent.

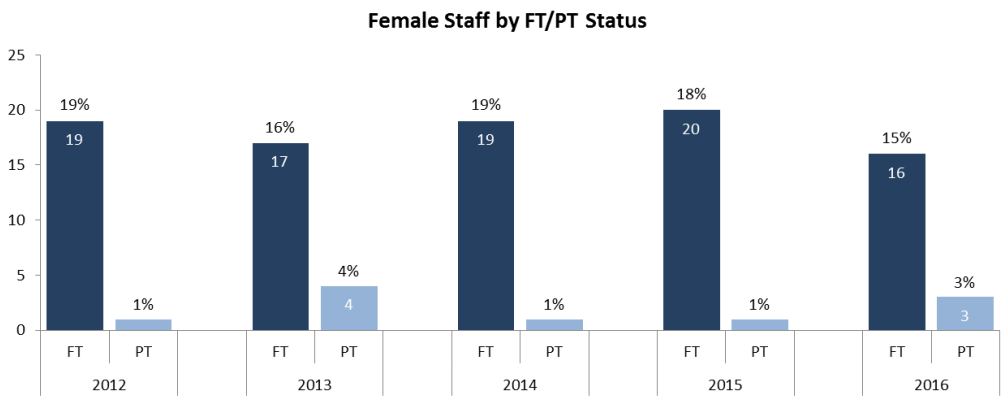

Figure 29 Female staff by FT/PT status from 2012 - 2016

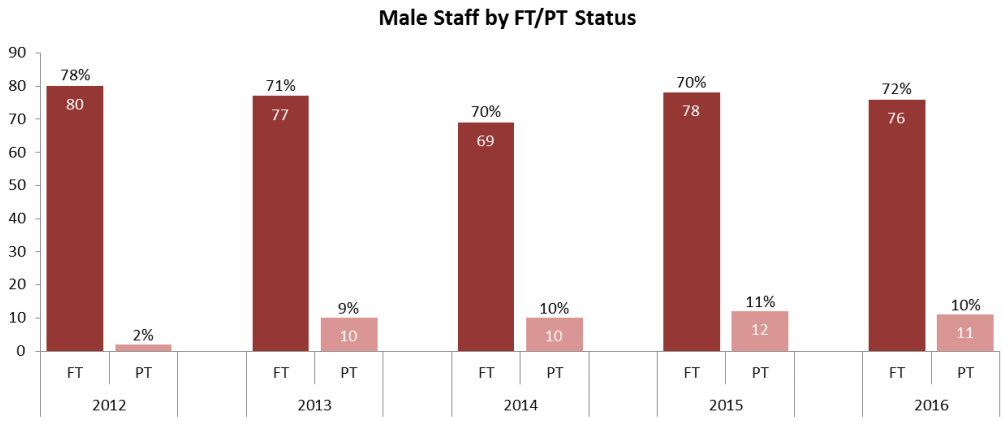

Figure 30 Male staff by FT/PT status from 2012 - 2016

The available benchmarking data are of HESA cost centre 121 (the most closely related data we could find). As this includes staff from other schools, and universities vary with regards to which cost centre they return CS, only approximate comparisons can be made. Between 2012 and 2015, the proportion of female staff roughly matched that of CS in the Russell Group and CS nationally, see Figure 31.

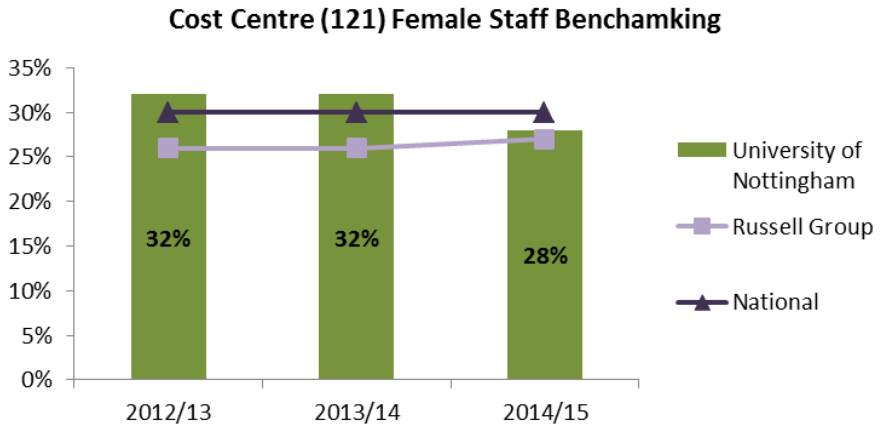

Figure 31 Benchmarking of Cost Centre 121 data from 2012/13 - 2014/15

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

The School does not offer zero-hour contracts. The following graphs illustrate FT and PT Permanent and Fixed-term contracts. Overall, the majority of male staff members are on FT Permanent contract whereas the majority of female staff are on FT Fixed-term contract (mainly because most grant funding is Fixed-term). However, in 2015 the number of female members of staff on FT Fixed-term and Permanent contracts equalised, and in 2016 the number of female staff on Permanent contracts exceeded those on Fixed-term. For Computer Science only (discounting Horizon which is a multidisciplinary institute and typically offers fixed term contracts, and attracts more women due to the nature of the research field), the number of female staff on FT Permanent contacts exceeds FT Fixed-term contracts.

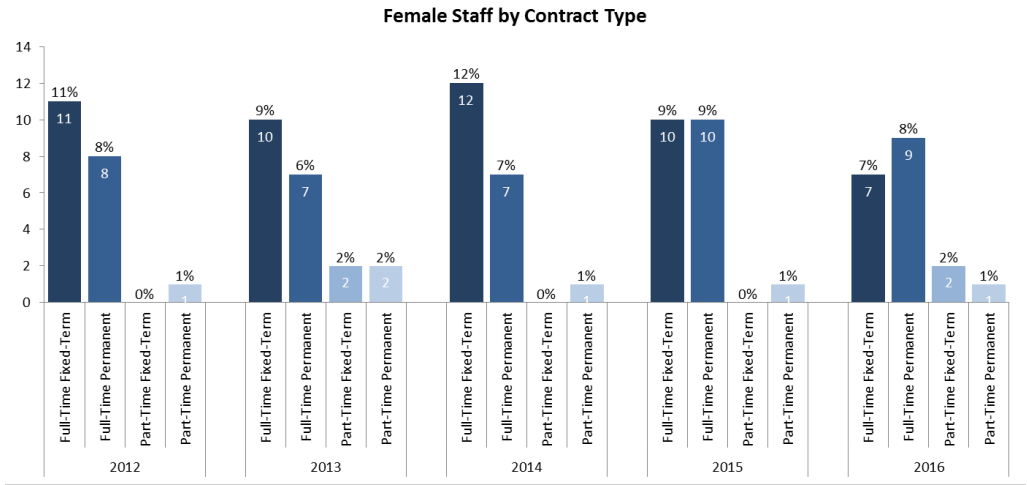

Figure 32 Female Staff by PT/FT status and by contract type from 2012 – 2016

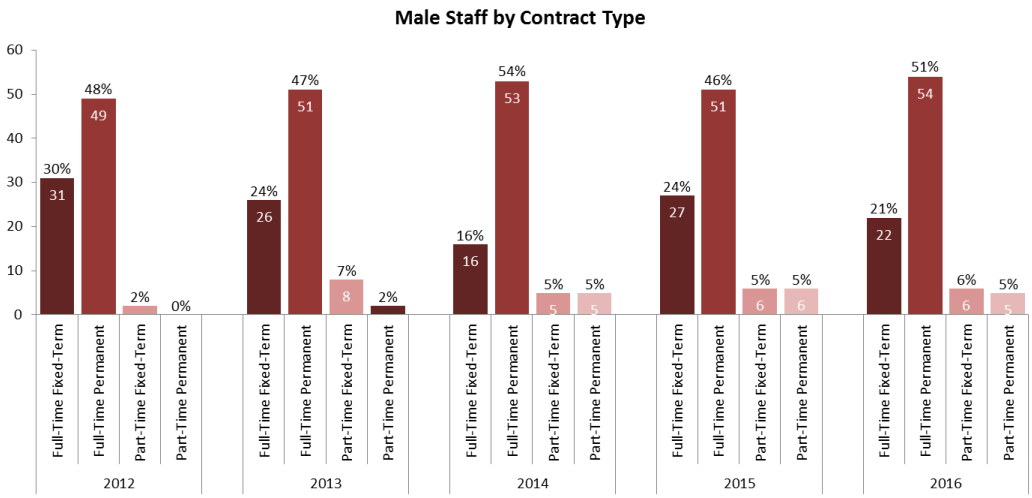

Figure 33 Male Staff by FT/PT status and by contract type from 2012 - 2016

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

Figure 34 and Figure 35 highlight the gender distribution of leavers throughout the reporting period. Annual turnover is low for both genders, which is indicative of a supportive and encouraging environment. Further analysis of the reasons for female staff to leave revealed that all female leavers left at the end of Fixed-term contracts from the Horizon institute (due to fixed term grant funding).

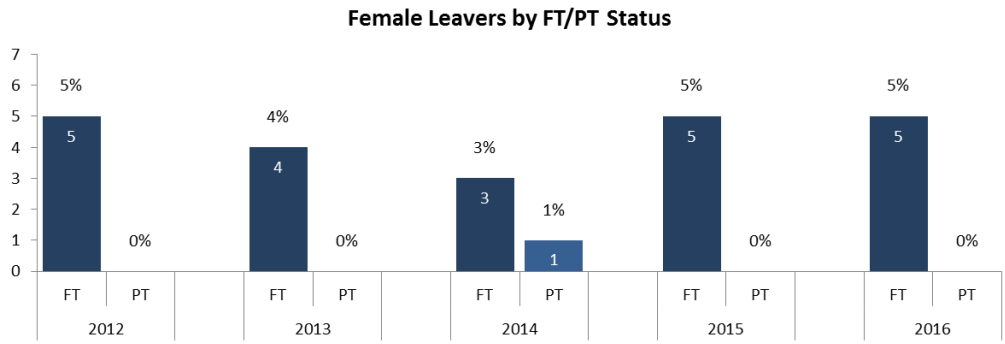

Figure 34 Female Leavers by FT/PT status from 2012 - 2016

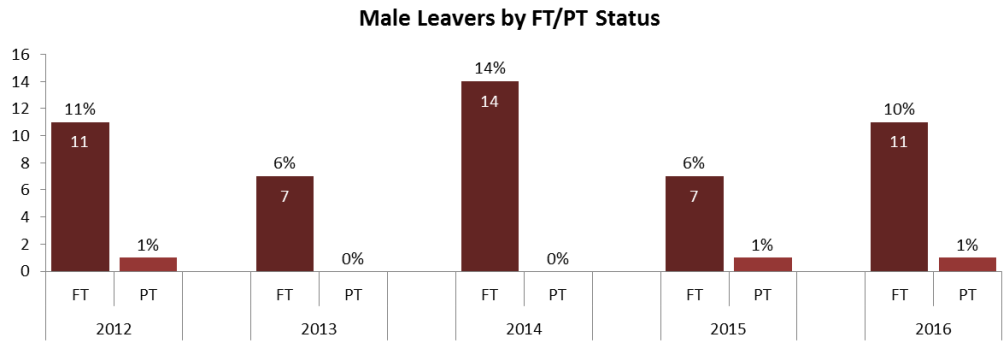

Figure 35 Male leavers by FT/PT status from 2012 - 2016

As the following two graphs illustrate, the majority of leavers were from grade 4, which is commensurate with that career stage (people seeking experience from multiple institutions, leaving to work in industry).

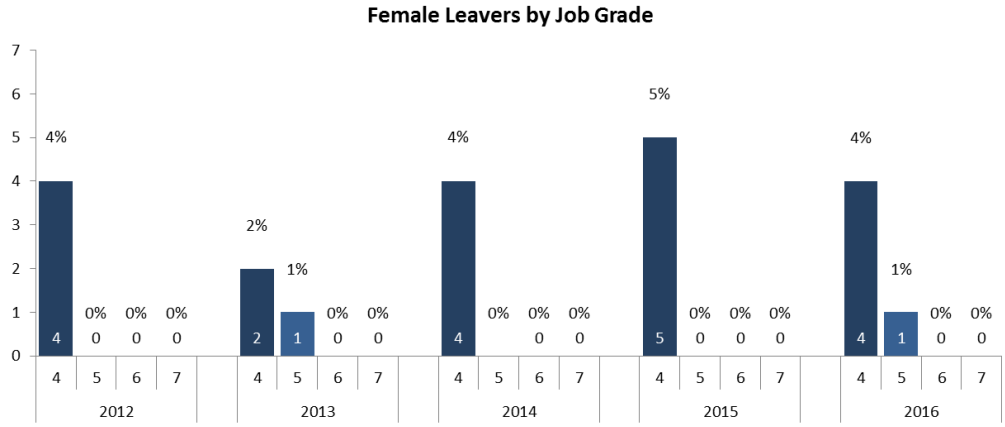

Figure 36 Female leavers by job grade between 2012 - 2016

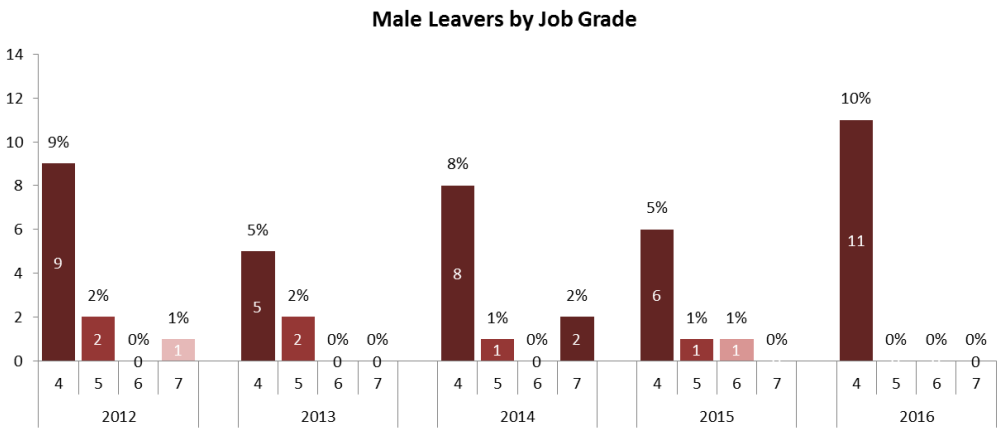

Figure 37 Male leavers by job grade between 2012 - 2016

People left for a variety of reasons including the end of their funding, which typically affects grade 4 and sometimes 5 (this applies to the two female grade 5 leavers), moving to other universities, moving to industry and retirements.

Word Count this section	2154

5. SUPPORTING AND ADVANCING WOMEN'S CAREERS

5.1. Key career transition points: academic staff

(i) Recruitment

We now explore application and shortlisting information, along with success rates, at each job level, and we make links to the actions proposed to address any issues found.

Seven female research and teaching staff have been recruited since 2011 and eighteen male staff. The discipline of Computer Science is gender-biased towards males, and for the School a near 30% female recruitment is a positive start in this context.

We found that, for all vacancies, at least one female applicant was shortlisted. Given the overall gender imbalance of the discipline, it is to be expected that our shortlists are reflective of the discipline, but nevertheless we will be taking advice from HR to ensure that shortlisting and interview processes are not detrimental to female candidates and to explore whether this can be improved.

ACTION POINT 3.1 RECRUITMENT PROCESS FOR STAFF AND ENCOURAGE FEMALE APPLICATIONS AND SUCCESS RATE

All staff sitting on recruitment panels have undertaken training that covers gender awareness and the majority of staff have undertaken EDI training. The School will endeavour to ensure that all staff have EDI (as well as Unconscious Bias) training.

ACTION POINT 4.1 ENSURE EDI IS EMBEDDED AND PROMOTED WITHIN SCHOOL

With the recent appointments of a female Professor, a female academic as Director of Teaching and a female Director of Operations, senior female representation on academic recruitment panels has improved. The School will also aim to ensure that there is at least one female panel member.

Female staff and students are prominently represented in all the School's promotional material and activities to help encourage applications from females. We will review our material to ensure it is free from any unconscious gender bias, particularly in use of language.

ACTION POINT 1.3 FEMALE UNDERGRADUATE POPULATION

ACTION POINT 3.1 RECRUITMENT PROCESS FOR STAFF

Recruitment at Level 4 (Post-Doc)

Figures 39-41 describe recruitment into the School at level 4, separated into female, male and PNTS candidates.

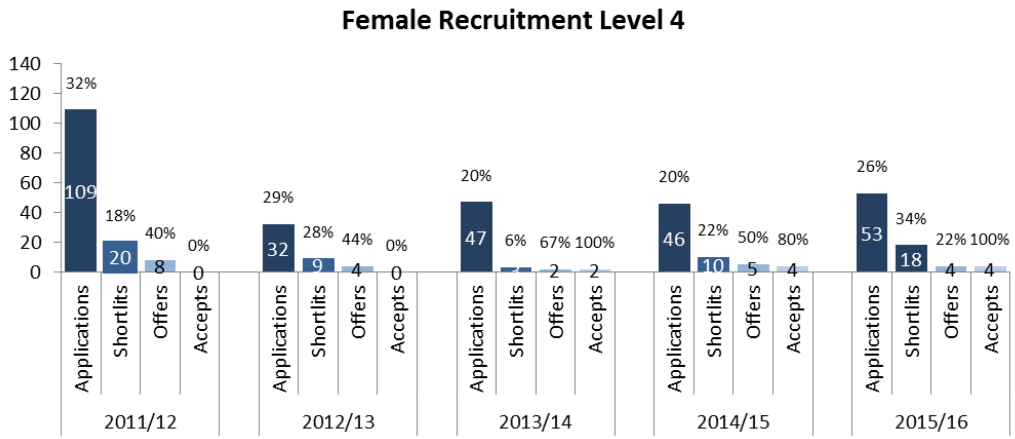

Figure 39 Female recruitment at level 4 from 2012 – 2016

Female recruitment at level 4 has doubled in the two years since 2013/14, up from nil recruitment in 2011-2013. Female applications improved to 26% in 2015/16 after falling from a high of 32% in 2011/12. Shortlisted female staff are generally above 20%, reaching a high of 34% in 2015/16. Throughout, the School has made offers to a high proportion of shortlisted females. The level of accepts has markedly improved from 0% in 2011-2013 to between 80% and 100% in 2013-2016 (10 accepts for 11 offers, which is a similar proportion to males).

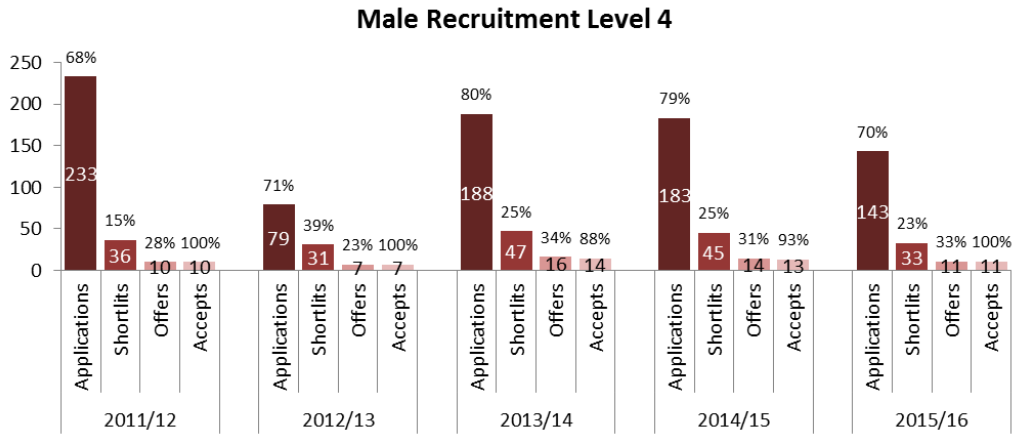

Figure 40 Male recruitment at level 4 from 2012 - 2016

Male recruitment at level 4 has seen shortlisting at around 25%, offers ranging from 23-34%, and a high level of accepts, with 100% in three of five years. More than twice as many men as women apply for level 4 over the years and this is consistent with the ratios of shortlists, offers and accepts.

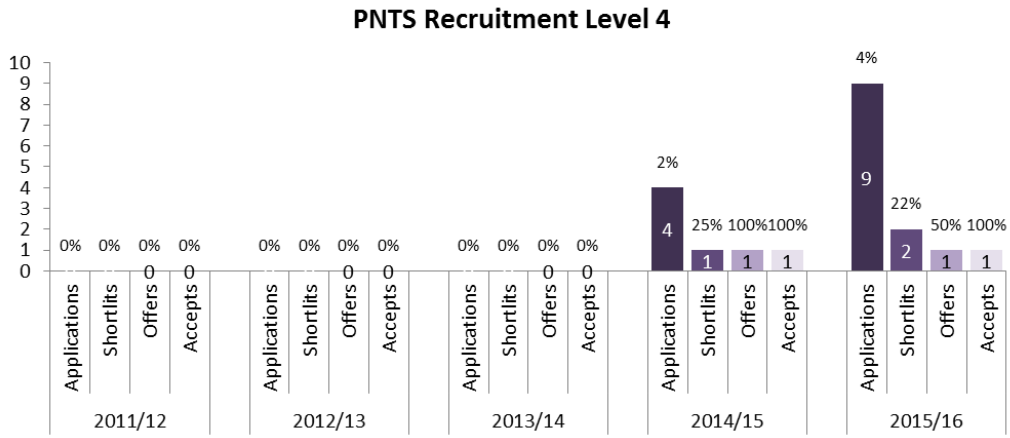

Figure 41 PNTS recruitment at level 4 from 2012 - 2016

Over the last two years there has been an increase of Prefer Not To Say (PNTS) applicants at level 4. For these candidate there is a proportional level of shortlisting (22-25%), and high levels of offers (100% and 50%) and acceptances (100% in both years).

Recruitment at Level 5 (Senior Researcher and Assistant Professor)

Figures 42 and 43 describe recruitment into the School at level 5, separated into female and male candidates.

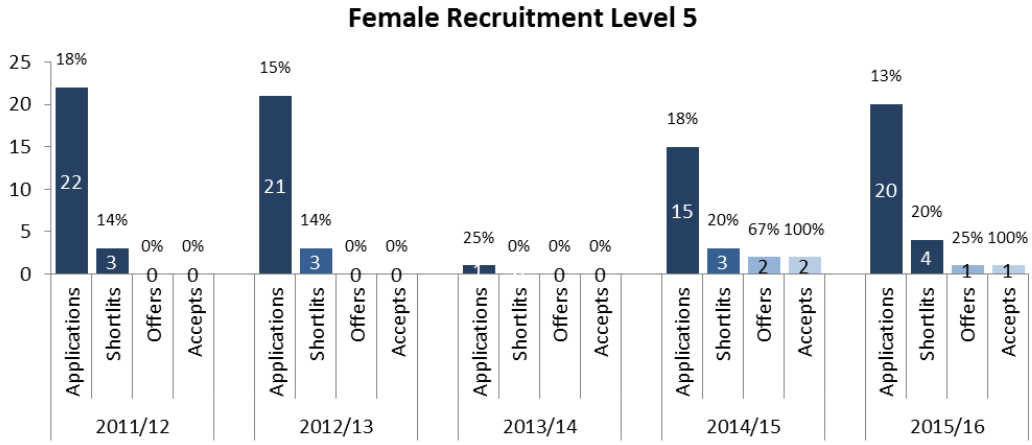

Figure 42 Female recruitment at level 5 from 2012 - 2016

Female recruitment for level 5 has improved over the last two years and we successfully recruited 2 female staff members in 2014/15 and 1 female staff member in 2015/16. The proportion of applications has averaged above 15%, and 20% of females were shortlisted for the past two years. The offer rate has improved from no offers before 2014/15 to 67% and 25% of offers made in the last two years.

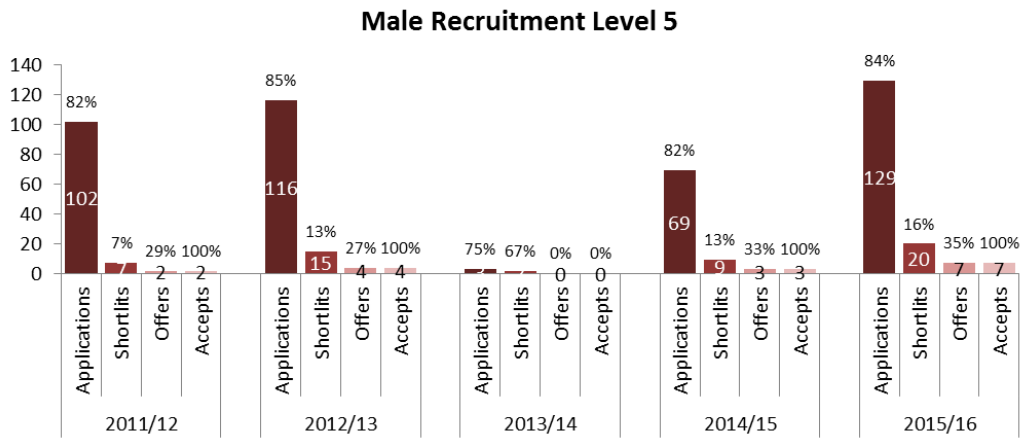

Figure 43 Male recruitment at level 5 from 2012 - 2016

The number of male applications has been over five times that of female applications. Over the last three years from 2013/14, on average female levels of shortlisting have outperformed that for males. Females also outperformed in terms of accepts, with 3 female accepts from 36 applications (8.3%) compared to 10 male accepts from 201 applications (5.0%).

Recruitment at Level 6 (Reader / Associate Professor)

The School did not recruit for level 6 during the reporting period. The School policy is normally to recruit level 4 and 5 and develop staff internally.

Recruitment at Level 7 (Professor)

From time to time we seek to form new research groups or strengthen existing areas by recruiting staff at level 7. Figures 44 and 45 describe recruitment into the School at level 7, separated into female and male candidates.

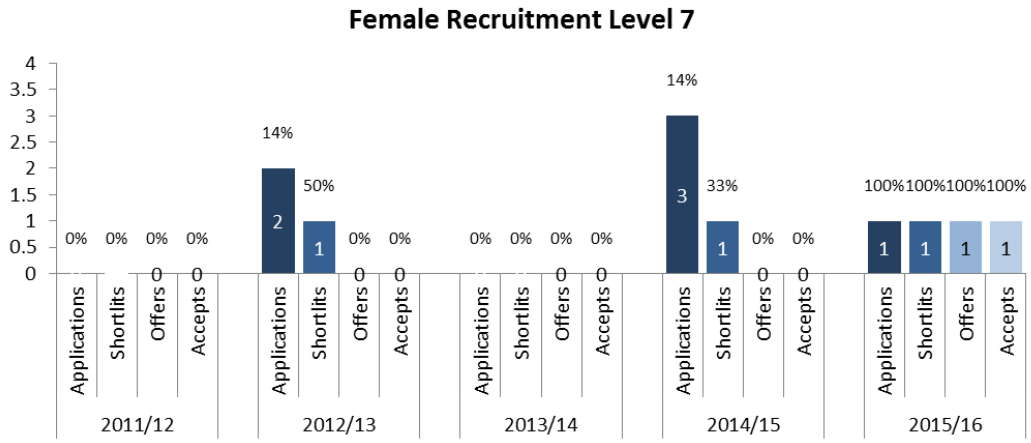

Figure 44 Female recruitment at level 7 from 2012 - 2016

There were a low number of female applications for level 7 positions in 2012/13 and 2014/15 but the shortlists included a female candidate both times. In 2015/16 an offer was made and accepted, and a level 7 female Chair recruited.

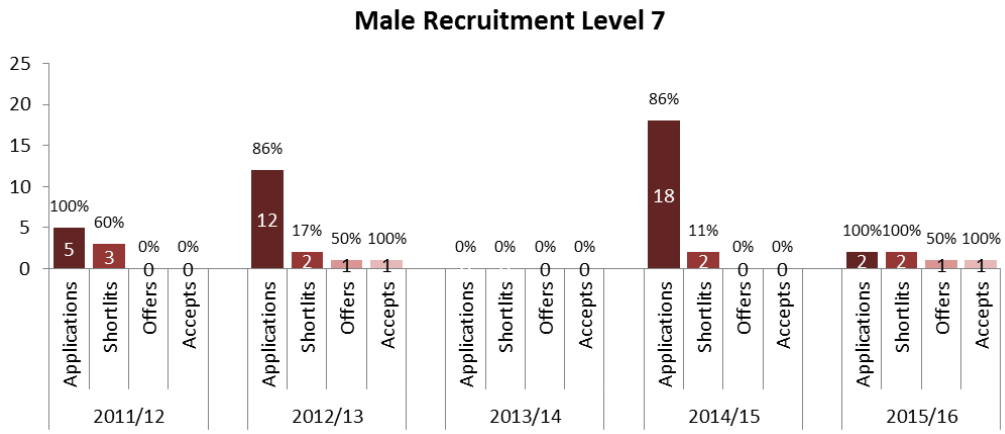

Figure 45 Male recruitment at level 7 from 2012 - 2016

There has been a higher number of male applications for level 7 positions in 2011/12, 2012/13 and 2014/15 with shortlists above 10%. In 2012/13 an offer was made and accepted. In 2015/16 an offer was made and accepted, and a level 7 male Chair recruited.

Throughout five years, the number of female applications across job levels is at least four times lower than that of male applications. On average more female applicants get shortlisted than male applicants (F:38%, M:35%) and more offers are made to female applicants than that to male applicants (F:44%, M:38% compared to their respective applications).

The Athena SWAN Working Group has undertaken a review of other Computer Science Schools and found out that this trend was similar across the sector in the UK and USA. Some recommendations were made to review recruitment policy and allow broader adverts with less prescribed role profiles to encourage a wider pool. The Group has identified the importance of including text in advertisements, "encouraging applications from under-represented groups". This is good practice and has seen increases in female application rates in other UK and USA universities in the STEMM sector. This is addressed in:

ACTION POINT 3.1. RECRUITMENT PROCESSES FOR STAFF, ENCOURAGEMENT OF FEMALE APPLICATIONS AND APPROPRIATE SUCCESS RATE

Over the last few years there has been an increase of PNTS applications. This demonstrates that the School is encouraging of people expressing their gender more freely.

(ii) Induction

Survey responses highlighted that only a minority of respondents were satisfied with the induction that they received when they started. Some respondents commented that they expected more centralised and advanced information about activities and training opportunities, as well as School processes and facilities. We probed this further in the staff and student focus groups.

Staff induction

Staff in the focus group agreed that induction had not been sufficient. However, all participants had arrived more than three years prior, and responses could not have taken into account measures put in place since, such as more focused School orientation and research group peer and mentor support.

Participants agreed that there was little information available on the day they arrived. Face-to-face meetings were seen as the most useful means of induction. When induction meetings happened (even if delayed), they were seen as positive and friendly. One person reported that a long meeting with one of the School office staff near the beginning of their employment was most useful to them. One person reported that they felt that they could always talk to people when they needed this, i.e. induction is not being seen as a discrete activity only relevant at the beginning.

ACTION POINT 4.4 IMPROVED INDUCTION PROCESS

The induction available on the School workspace was also discussed. While the workspace information might well be useful, it is difficult to access when other things are not in place first, especially University computer accounts. The general information packs available from HR were seen as generally valuable, but they do not address the actual demands of the job.

Because face-to-face meetings were highly valued the focus group suggested a dedicated point of contact, who would provide details of key people to get help from on different issues. Participants also suggested an email to the School with a picture profile of new staff (this has already been adopted for the newest members of staff); and to use 'cake drop events' to introduce new members of staff, following formal introductions through academic staff meetings held on a monthly basis.

ACTION POINT 4.5 SOCIAL INTERACTION AMONG STAFF AND STUDENTS

All new academic staff are assigned an experienced member of staff as a mentor to offer help and advice in settling into the School and the role. The School has also recently appointed a Professorial level Director of Staff Development, part of whose role is to help new staff develop their careers.

Research Student induction

The induction experiences differed substantially between students. The School now has a well-established induction process for PGRs. In addition to this, each research group also has its own induction schemes, specific to the nature of the group and research topic.

For example, the three Horizon CDT students in the focus group arrived as a cohort, being inducted together for the first week after their arrival. This was supported by being in the same space and collectively undertaking a training programme and activities run by the University centrally.

Students suggested to hold School welcome events on a regular basis for new students, to provide students more opportunities to meet each other for shared support, and to link induction up better with what the University provides and what the CDT provides.

ACTION POINT 4.6 CO-ORDINATE PGR WELCOME AND INDUCTION

(iii) Promotion

The School has a proactive approach to promotions and starts the process early each year. Potential candidates express interest and they can also be identified through discussions at their Personal Development and Performance Review (PDPR) meetings. In addition to this, advice can also be sought directly from the Head of School or other senior staff who sit on the School Promotions Group.

The School Promotions Group assesses all applications and makes a recommendation to the Faculty Group. Where the School feels the case is weak, feedback is given to the applicant with suggestions on how a future application could be improved. The criteria used to inform promotions decisions include research excellence, teaching excellence, publications, citizenship, leadership and peer-esteem. Part-time contracts or periods of leave (e.g. maternity) are taken into account and the process concentrates on quality of delivery over quantity.

At the most recent staff focus group, the group confirmed that the promotion procedure was broadly transparent and available to everyone in principle. One person reported how they had been strategic about it, discussing it with their mentor, weighing up when to put forward for promotion, and how feedback from an unsuccessful attempt had been very useful. In the majority of cases, promotion was suggested to people at the appropriate time by senior staff. Only a few people started the process without being prompted first.

The group suggested improving training on how to advance to the next stage and obtain clearer advice from mentors on what activities to target for the next year to increase promotion chances. This will be addressed in our action plan within:

ACTION POINT 3.5 PROMOTION OPPORTUNITIES AND FEMALE GENDER BALANCE

Figures 46 and 47 describe promotion within the School by job level, separated into female and male applicants.

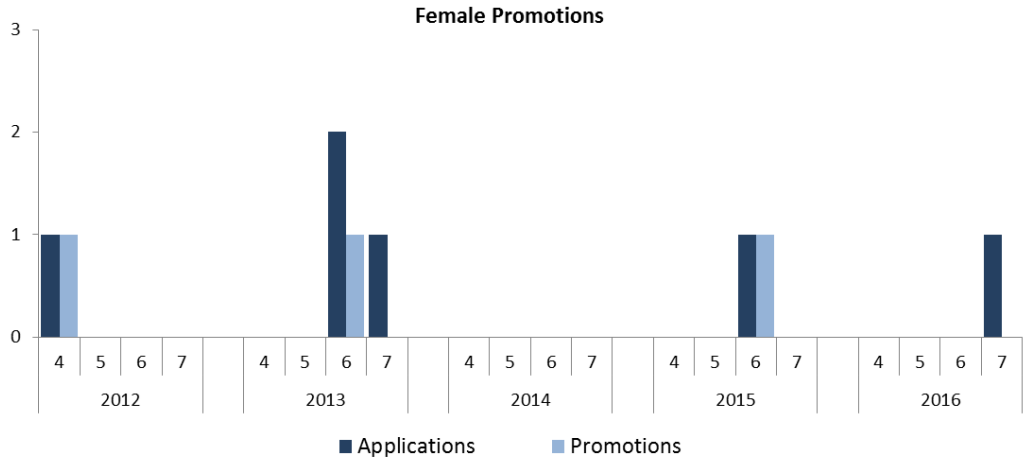

Figure 46 Number of Female applications for promotions and promotions to levels 4-7 from 2012 - 2016

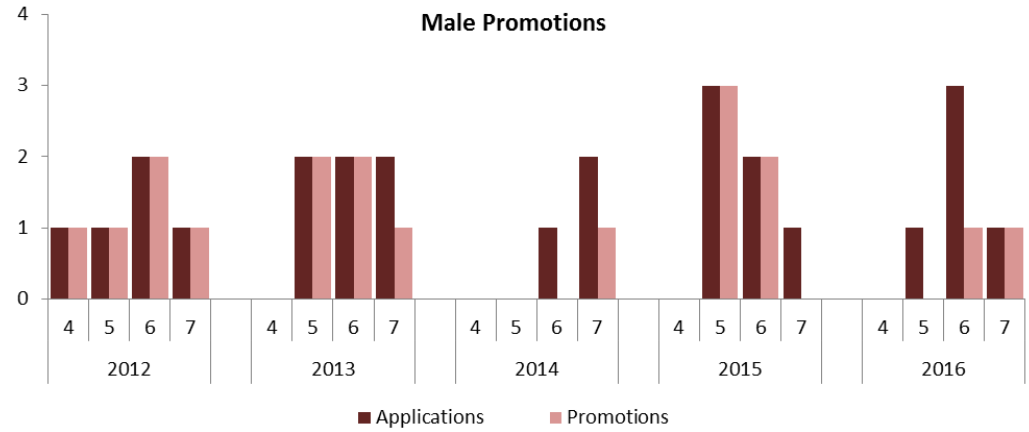

Figure 47 Number of Male applications to promotion and promotions to levels 4-7 from 2012 - 2016

A high percentage of application to levels 4-6 are successful, independent of gender. There are lower success rates for promotion to level 7 for both female and male applications.

Despite the School's efforts and overall positive feedback on the process, the success rate by female applicants for promotion is lower than that for male applicants. We seek to improve female promotions applications and success in our action plan.

ACTION POINT 3.5 PROMOTION OPPORTUNITIES AND FEMALE GENDER BALANCE

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

For both recent research evaluation exercises (RAE 2008 and REF 2014) all female and male eligible staff members were returned, confirming the excellence of their research output and the School's recognition of that excellence.

5.3. CAREER DEVELOPMENT: ACADEMIC STAFF

(i) Training

The University's Professional Development team offers a wide range of short courses and longer programmes to PhD students and academic, research and professional staff covering personal and career development, communications, research and enterprise skills, and supervision/management training. Specific leadership and management development programmes are offered by Professional Development for academic and managerial staff and senior leaders.

The School actively encourages participation in University-provided courses in professional and career development. Some examples include schemes such as APPLE (Academics' and Administrators' Professional and Personal Leadership Experience, for level 4 and 5 academic and APM staff), WAND (Women's Advancement Networking and Development, for level 6 and 7 academic and APM staff) and PEAR (Professional and Personal Excellence for Administrative Roles, for APM staff). Since 2013, three women from the School of Computer Science have completed the APPLE course and one completed WAND and APPLE in previous years.

Line managers discuss available training and development opportunities with staff during the Personal Development and Performance Review (PDPR) process (see 5.3.ii), but also throughout the year, as part of the PDPR personal development plan. Staff are encouraged to seek out and attend relevant training. Staff have access to funds (e.g. from School overheads, research grants and a central university fund) to attend external events in their subject domain, making further training available.

Centrally delivered courses all have on-line assessment and feedback review opportunities which are collated and used by Professional Development to improve and offer new training opportunities. We also run a range of training events in the School, such as: annual research and teaching away days; lunch meetings on teaching development; training sessions on new university systems (e.g. Moodle, CMS); training on grant preparation (Grant Academy). These are open to academic and professional staff as appropriate to role and feedback helps inform and plan further training.

(ii) Appraisal/development review

School staff at all levels participate in the PDPR Framework, which has been developed and refined for different job families and grades with clear expectations being set as a minimum for delivery. The aim is to assist and support staff with their career path and to help maximise their development and achieve promotion where applicable.

All staff have PDPR meetings and final outcomes. Centrally arranged University training is provided for new staff and as a refresher for those who seek and request this. Reviewer training is also provided both for new line managers/reviewers and as a refresher course. The staff focus group described the PDPR process as very useful. People valued that it helps to structure their year; that it allows for consideration of plans and set objectives for the next year, that it is with senior staff and it is of a suitable length (1-2 hours). However, the use of categorical ratings and their linkage to exceptional rewards were less favourably viewed. The University is reviewing the framework for rewards which is intended to address this issue.

(iii) Support given to academic staff for career progression

Transition from post-doctoral researcher to academic is usually achieved in two ways: (i) via externally advertised academic posts; and (ii) through Transitional Fellowship / Assistant Professor positions that develop individuals' roles from research only to research and teaching. The workload model has generous allowances for both pathways, to protect research time and allow new staff to be embedded in their research group before taking on the full academic teaching commitment.

The School actively promotes fellowship opportunities such as the University's Ann McLaren scheme, which targets female early career academics. One female postdoctoral staff member has received the Ann McLaren fellowship and two Professors have received an Advanced Fellowship and a Leadership Fellowship, respectively. Recently, one female member of the School has been awarded an MRC fellowship. We will maintain and aim to increase success rate for fellowships targeting female academics**.**

ACTION POINT 3.3 ACADEMIC AND RESEARCH FELLOWSHIPS

All new members of academic staff are provided with a mentor. Mentors are established members of School staff. Research Group leaders also provide mentoring to staff and this includes researchers working in their group.

However, our latest staff survey analysis showed that only 16% are happy with the mentoring of career progression. A number of suggestions have been proposed and addressed in our action plan:

ACTION POINT 3.2 RESEARCH CAREERS PIPELINE

ACTION POINT 3.5 PROMOTION OPPORTUNITIES AND FEMALE GENDER BALANCE

ACTION POINT 4.4 IMPROVED INDUCTION PROCEDURES

Mentors will be assigned as part of the induction process when people arrive, mentors will be offered an opportunity to be trained in what mentoring involves and informal access to people who hold useful information should be enabled. The newly appointed Director of Staff Development will be advising and guiding this process.

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

The School provides mentoring and career advice to taught (undergraduate and postgraduate) and research (PhD) students. Specific support is available via personal tutors, course and year directors, project supervisors, PhD supervisors (two supervisors are allocated to each student as a minimum) and the Women in Computer Science network. This is augmented by the University Graduate School, which provides professional and personal development training for postgraduate students and research staff. This recently introduced a number of measures to improve the research environment and the integrity of the supervision process.

Women in CS (WiCS) was established in 2015 primarily targeted to support UG female students and maximise the number of female graduates continuing into computer science careers. Since then, WiCS has expanded to include both UG, PGT and staff

members in order to raise awareness of the challenges of equality, diversity and inclusion within the School, focusing on UG students. Workshops were held in February 2015 and February 2016 (see Figure 48).

Figure 48 WiCS Workshop in the School's Board Room

The WiCS workshops offer a forum to discuss female career progression. Participants confirmed that the School provides an engaging and excellent environment for all female students offering them a different range of Computer Science and transferable skills and improving the chances for their future career paths. Several students present were classed in the top 1% of the students and two of them received Awards in their final year. Plans to expand WiCS are described within:

ACTION POINT 3.2 RESEARCH CAREERS PIPELINE

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

All funding applications are offered internal peer-review, aimed at providing constructive feedback at a suitable stage in the grant application process, in addition to mentoring and guidance from research groups throughout.

In 2012, the School's Grant Academy was established, a supportive review panel of senior academics, who provide advice on applications by any member of the School. The Grant Academy has been running since October 2012 and runs once per term. Since it began, it has considered 14 proposals. Of these, four were submitted to funders but none were funded. One further proposal which has been through the Grant Academy should be submitted by the end of 2016. Of the 14 proposals, two were led by female investigators. Whilst no proposals which have been considered by the Academy have been awarded, one female investigator subsequently applied for and was awarded a discipline hopping award and other investigators who have presented to the Grant Academy have gone on to win substantial research grants. Anecdotal evidence from investigators shows they have found the Grant Academy useful and the School encourages all investigators to make use of it.

The School also offers mock interview panels and offers those bidding for funding a look at both successful and unsuccessful EPSRC proposals as well as the feedback each has received. Some staff would like more help and support for grant proposal preparation. We have addressed this as part of our action plan.

ACTION POINT 3.2 RESEARCH CAREERS PIPELINE

ACTION POINT 3.3 ACADEMIC AND RESEARCH FELLOWSHIPS

5.5. FLEXIBLE WORKING AND MANAGING CAREER BREAKS

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

Our maternity, paternity and adoption leave (including shared) policies and guidance are available on the HR website. Our approach is continuously monitored and the WiN Parental group, of which the CS SAT leader is a member, provides feedback to HR.

The approach includes guidance for undertaking risk assessments and/or making reasonable adjustments for pregnant employees. In addition, HR offers one-to-one support to discuss leave and pay arrangements. The uptake of this advice has increased, particularly with regards to shared parental leave. Cover arrangements for leave are devolved to departments to arrange with individuals, supported by financial and HR Business Partners.

As soon as a member of staff notifies their line manager of pending maternity, the line manager actively encourages the person to make an appointment with an Employment Relations Advisor in HR to discuss dates, process, benefits, related issues, etc. Line managers are responsible for risk assessments and any work adjustments required (reviewed as pregnancy continues and if anything is reported) and can take advice from HR and the local Safety Officer and University H&S Officers, to ensure that suitable arrangements are in place. The University has policies to enable staff to attend medical appointments. In addition, employment relations advisers are ready to advise on maternity/paternity/adoption leave pay (University and statutory schemes)

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

Once staff go on maternity leave, the line manager and staff member agree regular contact and formal 'keeping in touch' days to ensure that staff are kept informed. These can also facilitate training (such days are paid and agreed in advance) and help as part of the preparation to return to work. As part of the return to work planning, flexible or part-time working can be discussed with line managers, the risk assessment reviewed and facilities to enable breastfeeding can be provided via milk expression / storage.

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

We offer a variety of support, including flexible-working and changes to workload allocation. Support mechanisms are communicated directly via managers and through the Information Booklet for Parents on HR webpages. Staff are reminded of their right to use accrued annual leave to phase their return to work.

Guidelines for manager/staff discussions describe potential arrangements including job-share, term-time or part-time working. The School offers further support suited to local needs, such as a reduced teaching allocation, or temporarily reduced/flexible hours.

(iv) Maternity return rate

Figures 49 and 50 describe the maternity leave return rate in the School, separated into academic and APM staff.

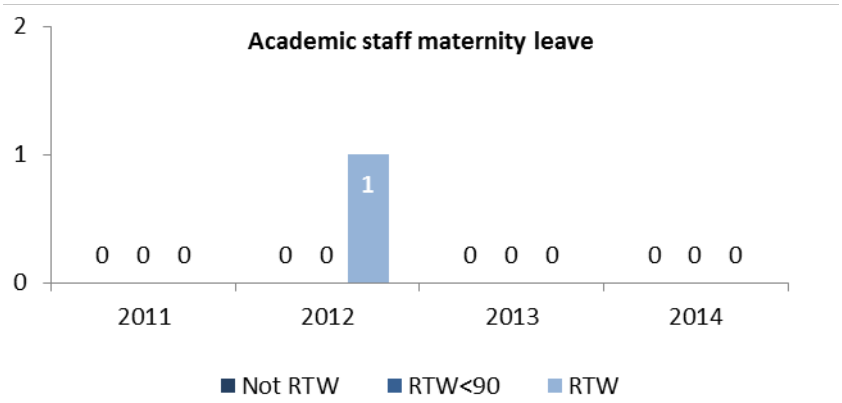

Figure 49 Maternity leave taken by academic staff from 2011 - 2015

One member of staff from School of Computer Science was on maternity leave in 2012 and returned to work.

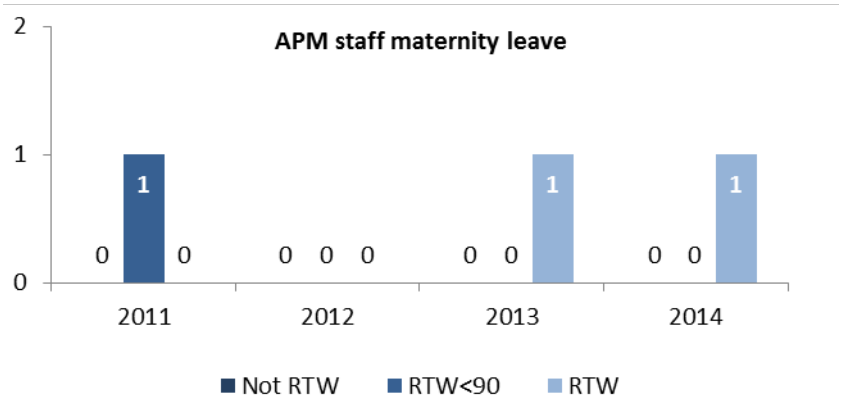

Figure 50 Maternity leave taken by APM staff from 2011-2015

One APM member of staff was on maternity leave in 2011 and returned to work at less than 90% FTE. One member of APM staff was on maternity leave in 2013 and another in 2014; they both returned to work.

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

Figures 51 and 52 describe the paternity leave return rate in the School, separated into academic and APM staff.

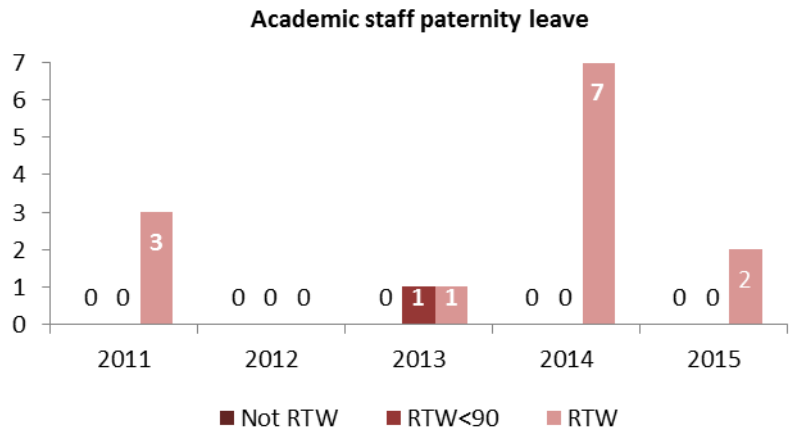

Figure 51 Paternity leave taken by academic staff from 2011-2015

There have been 14 instances of academic paternity leave over the last 5 years. In 2013 one male member of staff returned to work at less than 90% FTE.

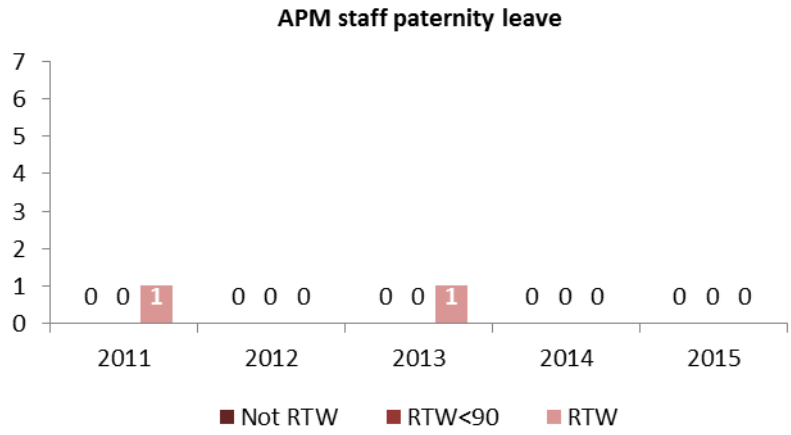

Figure 52 Paternity leave taken by APM staff from 2011-2015

There were two APM paternity leaves in 2011 and 2013. Both members returned to work. There has been an increase in the uptake of ordinary paternity leave by staff but thus far new fathers have preferred to take the second week as annual leave rather than receive only statutory paternity pay for the second week.

(vi) Flexible working

The School offers flexible and part-time working arrangements. Staff may formally request the timetabling of teaching commitments to account for part-time or flexible working hours, and childcare commitments. Staff may also request term-time only working patterns to adjust to children's school times. The School will positively respond to such requests, whenever possible.

As part of our commitment to supporting staff with caring responsibilities School meetings will normally be scheduled to start between 10am and 2pm. A further measure to support those with caring responsibilities is the carer's fund, which is designed to contribute to the care costs (e.g. childcare) arising when members of staff attend external training or conferences. Both the above are documented in the staff

handbook. The University also provides dedicated parking spaces for staff who may arrive after 9.15am due to family obligations.

The staff focus group did raise that managing workload is very difficult when balancing family requirements, such as care for children. Two of the attendees without children also mentioned the constraints they face because of a partner's business and because of the pets they owned. The same two people also mentioned that the long work hours that their partners had to deliver resulted in further constraints. Beyond the regular external requirements discussed, specific emergencies (children being ill, the partner's business having an emergency) were reported as particularly difficult to cope with.

Flexible working available in the School appeared to allow people to cope with the constraints mentioned in the staff focus group. The major concern revolved around providing better systems in place to cover for people when they are not available.

ACTION POINT 4.3. WELLBEING AND HEALTHY LIFE BALANCE

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

Our flexible-working provision enables staff to request both temporary and permanent changes to their working hours/patterns, to support transitional periods and/or to provide a trial period to ensure suitability for the individual and team of potential revisions to existing arrangements.

5.6. Organisation and culture

(i) Culture

The School is committed to Principle 9 of the Athena SWAN Charter: making and mainstreaming sustainable structural and cultural changes to advance gender equality, recognising that initiatives and actions that support individuals alone will not sufficiently advance equality.

This section describes internal efforts to mainstream structural and cultural changes within the School. The School's interventions into the wider community, aimed at advancing gender equality, are discussed in 5.6.viii.

The School engages in ongoing consultation (e.g. through contacts with individuals, via surveys and focus groups) with staff and students regarding gender equality and inclusivity. The most recent staff and student surveys ran from December 2015 - January 2016, with a response rate of approximately 40%. Key issues identified in the survey responses were explored in focus group sessions run by two members of the Athena SWAN group. One focus group was held with staff (April 2016) and another with PhD students in (Sept 2016). The sessions were audio taped to allow further analysis.

Feedback collected through the surveys and focus groups is woven into the application throughout. Based on staff and student consultation, mechanisms have been developed and refined in order to further a positive culture in the School.

ACTION POINT 4.1 EDI IS EMBEDDED AND PROMOTED WITHIN SCHOOL

ACTION POINT 4.2 ATHENA SWAN ENGAGEMENT

Student societies play a prominent part in shaping the culture of the School. The School currently has three student societies, which allow students to gather, discuss and socialise both within the School and outside it:

- HackSoc - focuses on programming skills. Over the last three year it has had almost 50% female membership.
- CompSoc - general society that encompasses all interest in Computer Science, not just programming.
- Guru - peer support mentoring scheme partnering experienced students ('gurus') to new students for help and advice. In the current academic year, we have 16 gurus, of which 5 (31%) are female.

Despite being accessible to all, these societies are perceived by students as groups that are for technically more confident students. Such perceived barriers have been discussed further during the Women in CS meeting (see 5.3.iv for more details).

Issues of gender and inclusivity are discussed openly within School culture. For example, two female lab members organised a workshop in the Mixed Reality Lab in May 2015, attracting staff and students from across the School. The workshop focused on how stereotypes can cause an unconscious bias in how we expect people to perform and conform in the workplace.

The workshop highlighted tactics for promoting inclusivity: being mindful of people who are in a minority in the workplace, and being mindful of being in a majority; noticing if someone isn't speaking up in a group situation or meeting, and asking them questions to invite them into the conversation; considering how use of language, e.g. slang or humour, might not be understood by non-native speakers; showing an interest in a person's background and culture by asking them questions and getting to know them.

We are improving social interaction between staff, between students, and between staff and students by running regular social events like cake-drops, lunches provided by the School for students and tutors, and the Chinese New Year celebrations, for example.

Figure 38 A joint staff-student event held in the CS atrium

Helping staff maintain a healthy work/life balance is an important consideration for the School. Following many years without staff room, because of lack of space, the School

has now a fully equipped, well-furnished room (see figure 53) providing refreshments, relaxation and social interaction for staff.

ACTION POINT 4.5 IMPROVE SOCIAL INTERACTION WITHIN SCHOOL COMMUNITY

Figure 53 Newly-furbished CS staff room

(ii) HR policies

The School operates to University policies and guidance on HR issues. Head of School and Director of Operations are ultimately responsible and will address any differences identified or reported. School staff and managers are kept informed through regular staff meetings, briefings and communications.

(iii) Representation of men and women on committees

There has been a substantial reconfiguration of the decision-making committees in the last 2 years. Currently, out of 10 School committees 2 are chaired by female members of staff, as illustrated in Table 5. There is at least one female committee member in each committee with the majority of committees having more than 3 females and overall there is just over 30% female representation on average across all committees.

Table 5 The 10 CS School committees and gender representation

Committee	Chair	F	M	F %
School Advisory Board	M	3	13	19
School Management Board (3 vacant)	M	5	7	42
Research Committee	M	1	8	11
Teaching Committee	F	3	8	27
Athena SWAN	F	9	5	75
Research Ethics Committee	M	1	11	8
Outreach Committee	M	2	16	11
School Operations Group	M	2	2	50
Project Committee	M	4	10	29
UG Learning Community Forum	M	3	6	33
PGT Learning Community Forum	M	2	4	33
			Average F representation	31

Some committee chair positions are a result of people's roles. For example, the Head of School chairs the Management Board. Some committee membership works in a similar way, for example with all heads of research groups being members of the Research Committee.

Female staff hold other senior positions with the School: Director of Teaching, Director of Operations and Senior Tutor, along with our recently appointed female member of staff in a Professorial role. It is important to balance such female participation in committees with overall administrative workload – females should not end up being inadvertently over-burdened with administration – and this balance will be reviewed.

Considering the model in place, it is extremely important for women to apply for promotion to more senior levels in order to improve female representation on School committees. The School must use its proactive approach (described in 5.2.iii) to encourage female members of staff to successfully apply for promotion. This is likely to mean asking for support and mentoring for female staff from the wider University.

ACTION POINT 3.3 ACADEMIC AND RESEARCH FELLOWSHIPS

ACTION POINT 3.5 PROMOTION OPPORTUNITIES AND FEMALE GENDER BALANCE

ACTION POINT 3.6 FEMALE REPRESENTATION ON COMMITTEES

The School promotions committee had 5 male members until 2015. From 2016, the committee has 5 male members and 1 female member. From 2016/17 this has changed, as the Director of Teaching and Director of Operations are both females, resulting in 5 male members and 2 female members, which is slightly higher than the current proportion of female staff in the School, and we are aiming to carry this forward.

The School forms recruitment committees in response to the post being advertised, and the gender balance varies across those committees. All panels must have at least one trained member (a requirement for the panel Chair) who has attended relevant University training covering the relevant legal, equality and diversity issues.

(iv) Participation on influential external committees

The School encourages all staff to join external committees through direct discussions with individuals to identify development opportunities to nomination from research group leaders and partners.

Table 6 CS staff membership of Influential External Committees

Professor Natasa Milic-Frayling F	Chair of the Technology and Research Workgroup of the UNESCO PERSIST Programme
Dr Boriana Koleva F	Member of the Faculty of Science Learning and Teaching Committee
Professor Jon Garibaldi M	Incoming Editor-in-Chief of IEEE Transactions on Fuzzy Systems, 2017-

Dr Rong Qu F	Area editor at IEEE Computational Intelligence Magazine
Professor Derek McAuley M	Has acted as a Special Advisor, House of Lords EU committee, inquiry into Online Platforms (2015/2016). He has been invited to give verbal evidence at House of Commons, Science and Technology Committee inquiry, Responsible Use of Data (2014/2015. Professor McAuley has also been on Advisory Board for Scottish Informatics and Computer Science Alliance (SICSA) Advisory Board since 2013.
Professor Tom Rodden M	EPSRC Deputy CEO since 2016.
Professor Tony Pridmore M	UK Representative on the Management Board of EU COST Action FA1306 and a panel member for BBSRC Tools and Resources Development Fund
Dr Christian Wagner M	Publications Chair for Fuzz-IEEE 2017 and Associate Editor for the IEEE Transactions on Fuzzy Systems
Dr Max Wilson M	ACM SIGCHI communications committee
Dr Dario Landa Silva M	Part of the Dignity Advisors Network until 2016 and is a member of a new committee at the Faculty level called "PhD Student and ECR Faculty Committee" which is intended to help our Schools to enhance the experience of our PhD students and early career researchers

(v) Workload model

The School participated in the pilot of an hours-based workload planning tool for the University in 2013/14 which aimed to provide much greater detail on staff workload. We have subsequently implemented the full University workload model in order to enable transparency of workload and give staff a clearer indication of what expectations are in relation to their working practices.

The School Workload Model is implemented as an indicative planning tool, providing information on the relative weight of teaching duties, administrative duties (including committee membership and therefore Athena SWAN) and research activity. Projected workload is discussed with each member of staff at the end of the first semester and again during the PDPR process. Workload information is also correctable (e.g. School operations requests people to make corrections when they spot inaccuracies in their profile). Staff feed back and adjustments are made over the summer. Any imbalances

are adjusted for as early as possible, and this may take place over more than one academic year.

During the staff focus groups, participants provide some very useful feedback on the implemented model. Participants reported how they have access to view the workload allocated to them, but not that of others. Consequently, each person's relative workload in an anonymised view of the whole School is now provided at PDPR.

Participants also discussed that in their view the workload model does not give recognition for the individual but is a tool useful mainly to the School and as communication device with the Faculty. It was also described how the output of the model allows comparisons of one's own assigned workload to those of colleagues in the School. We describe how we address workload for everyone and also support for workload management for part time staff in our action plan.

ACTION POINT 4.7 ENSURE THAT THE WORKLOAD MODEL IS FIT FOR PURPOSE

The Workload model is used within PDPR and in support of promotion applications. The School reviews responsibilities annually and when necessary during the year to ensure an equitable load and respond to unplanned changes (e.g. staff member leaving). For example, in 2016/17 tutor responsibility and tutorial student allocations have been spread to a larger group of staff. Staff are aware of the guidelines and are able to engage with the allocation process. The model is published and available to staff.

(vi) Timing of departmental meetings and social gatherings

We have formalised existing School policies that promote a healthy work/life balance. The School staff handbook has been updated and policies on meeting times etc. have been formalised, with the aim to keep meetings and lectures to core hours.

Working hours were discussed in the staff focus group. Participants noted that there is a recognisable end to the workday in the School. One person reported having been encouraged not to work at weekends, and they valued this encouragement very highly. Another University that they worked at had a much stronger culture of '*showing to be doing long hours*'. This reflects the faculty plan and its specific aim to 'reduce out of core-hours workload and email traffic for all staff'.

ACTION POINT 4.3 ENSURE WELLBEING AND HEALTHY LIFE BALANCE FOR STAFF

(vii) Visibility of role models

The School has reviewed its marketing literature and Open Days and found that there is no unconscious gender bias in publicity materials or activities. All Open Days now have female staff in attendance.

The previously mentioned Guru peer support (see 5.6.i) scheme has been reviewed and students no longer have a single Guru as a point of contact. There are now female students amongst the Gurus for new first year students to approach should they wish.

Through outreach activities (as described in 5.6.viii), the School ensures that female staff act as role models within wider communities.

The School organises a series of seminars with invited external speakers and we have recorded the gender of speakers since the 2014/15 academic session. Since then we have had 17 male speakers and one female speaker. Two seminars are now planned with one female and one male speaker, respectively. We will collaborate with other schools and faculties to address this gender imbalance.

We address increasing the visibility of role models in our action plan.

ACTION POINT 3.4 CHAMPION AND PUBLICISE FEMALE ROLE MODELS IN COMPUTER SCIENCE

ACTION POINT 3.5 SUPPORT STAFF TO STRENGTHEN PROMOTION APPLICATIONS

ACTION POINT 3.6 SCHOOL COMMITTEE REPRESENTATION

(viii) Outreach activities

The School has worked with its student societies and through very dedicated staff to increase its outreach activity and champion the discipline to females, as we describe below.

A group of female second year students are now leading a Computing Club at Nottingham Girls' High School with support from the School, with the aim of promoting the visibility of CS as a degree choice to girls of secondary school age.

We have also designed a workshop on app development with our artist in residence which we believe will be particularly attractive to girls and have offered this to local schools. Feedback has so far been positive.

For three years, the School has run computing activity days at Firbeck (Primary) Academy. Teams visited the children and engaged them in activities such as Scratch programming, building 3D models and making musical instruments. Of the staff involved, in 2014 there were 16 male/ 2 female; in 2015, 7 male/ 6 female; in 2016, 5 male/ 2 female.

The Women in Technology Conference is an annual event organised and run by our students to inspire women into technology. Guests are invited free of charge to listen to influential women in technology and partake in workshops throughout the day.

In 2013 the School was proud to host the annual BCS Women's Lovelace Colloquium. We continue to contribute to this event by providing content from our female staff year on year. Several staff and student members also attended the Lovelace Conference organised by the Faculty of Engineering in 2016.

Word Count this section	5813

7. FURTHER INFORMATION

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

Please comment here on any other elements that are relevant to the application.

We wanted to briefly highlight development of #techmums at CS at UoN, a high profile outreach activity. In July 2015 two female students, from the Horizon Centre for Doctoral Training (CDT) organised the 'Leading Together in the Digital Economy' event.[2] Sponsored by the EPSRC's Digital Economy Doctoral Training Network (DEN), this was designed to celebrate women working in transdisciplinary careers and to examine and identify inclusive practices fit for the Digital Economy of the 21st Century. It was intended for both men and women, and open to students, ECRs and industry professionals.

One of the keynote speakers at this event was Dr Sue Black[3], who was named one of the Guardian's top-50 women in tech in Europe in 2015, and was awarded an OBE at the beginning of 2016 for her work saving Bletchley Park[4]. Sue is the founder of #techmums[5]. This social enterprise aims to improve women's digital skills and boost their confidence, in order to help them educate their families, return to work after career breaks and start their own businesses.

Inspired by the idea of #techmums happening for the first time in Nottingham, a group of staff and students in the School – all interested in public engagement and improving women's digital confidence – decided to liaise with Sue and spread the word about #techmums to local schools. The group comprised PhD students, an administrator, research fellows and interns. Strategic support for the group's efforts was provided by the Associate Faculty Pro-Vice-Chancellor for Research & Knowledge Exchange in the Faculty of Engineering (and also Co-Director of the CDT and Principle Investigator of DEN).

The School recognises that empowering women to utilise new technologies will benefit their families and impact the next generation, changing cultural attitudes about Computer Science in the process. In July 2016, the School provided financial support for #techmums to pilot at a local secondary school, Top Valley Academy[6]. The Deputy Head Teacher at the academy, was really enthusiastic about #techmums right from start, and worked really hard to fit in and recruit for a pilot. Nine of the pupil's mums signed up for the course and were able to make use of excellent facilities at the School: a training room where Chromebooks were set up ready for them to use. For three weeks, two experienced #techmums trainer, made the journey to Top Valley so they could deliver two intensive training sessions per day. The initiative was supported by local role model Lilian Greenwood MP.

Each #techmums session tackles a different subject: cloud computing, app design, social media and security, web design and Python programming. There trainers provide lots of practical support and encouragement to try out new things. This includes interesting

[2] http://www.den.ac.uk/dens/events/leading-together-in-the-digital-economy.aspx
[3] http://blackse.wordpress.com
[4] unbound.co.uk/books/saving-bletchley-park
[5] www.techmum.co
[6] http://blogs.nottingham.ac.uk/peopleandculture/2016/10/13/techmums-in-nottingham/

software like POP, an app that allows you to prototype apps using your smartphone camera and wireframes. Alongside conventional course materials for the mums to keep, #techmums also uses social media channels to build a community, meaning that those involved can keep communicating and learning long after the training sessions are over.

Figure 54 illustrates how the mums who participated in #techmums training reported improved attitudes towards technology as a result, which is very positive outcome of this outreach activity.

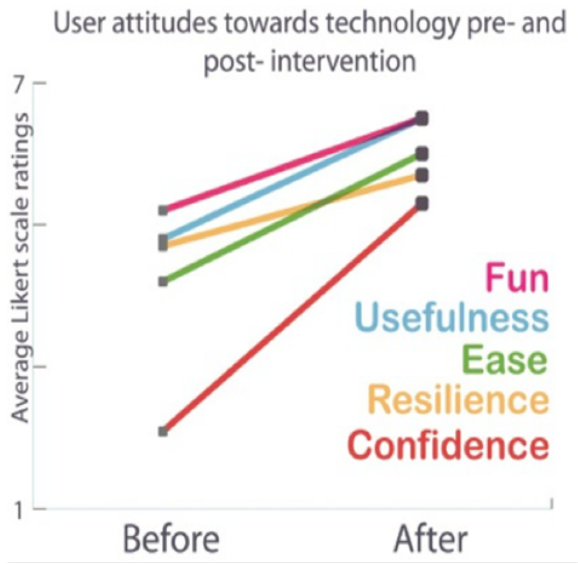

Figure 54 Reported effects of #techmums training on participants' attitudes towards digital technology.

Top Valley Academy has since secured funding from another source to run #techmums again. This continuing commitment is what the School's investment aimed to foster.

Word Count this section	559

8. ACTION PLAN

The action plan should present prioritised actions to address the issues identified in this application.

Please present the action plan in the form of a table. For each action define an appropriate success/outcome measure, identify the person/position(s) responsible for the action, and timescales for completion.

The plan should cover current initiatives and your aspirations for the next four years. Actions, and their measures of success, should be Specific, Measurable, Achievable, Relevant and Time-bound (SMART).

See the awards handbook for an example template for an action plan.

Action Plan 2016	School of Computer Science, The University of Nottingham

Abbreviation Key: CS – Computer Science, HoS - Head of School, DoT- Director of Teaching, DoR – Director of Research, DoO – Director of Operations, PGRSA – Postgraduate Research Student Advisor, SAT – Self Assessment Team, EDI – Equality, Diversity & Inclusion, SOG -School Operations Group ,TC - Teaching Committee, RSG - Research Strategy Group; WIN – Women in Nottingham; FEDIG - Faculty Equality, Diversity and Inclusion Group

Action Point	Description of action	Action taken and outcome as of April 2017	Action planned from April 2017	Responsibility	Start Date and Timing	Success Measure
1. Gender balance and representation in UG student population						
1.1	**UG degree attainment** Investigate data by gender on final degree achieved. Analyse module data for gender information and trends to detect emerging patterns and give early warning to concerns.	Process of degree attainment data collection identified and agreed. Reporting and responsibilities confirmed. Formal report to examinations board.	Module data analysis to include gender statistics.	Exams Officer and support team. Chair of TC and Student Services support.	November 2016 onwards and review on an annual basis.	Increase % of good degrees (1st and 2.1) for females towards that achieved by males in 2019/20. This will require an increase from an average of 60% (in period 2011-2015) to 75% by 2020 (or to whatever figure is then achieved by males). Implement further action and specific interventions if trends indicate issues of concern.
1.2	**UG student application and intake** Continue to analyse data by application, offer, conversion, gender and entry to understand why we are recruiting fewer female students.	These data are collected for UG applications and acquired for suitably qualified UCAS applicants nationally. University on line open day and UCAS registration system will allow data to be collected for all attendees to gather gender / diversity information to correlate and inform on UG entry.	Analyse data on offer acceptance by gender and look at destination information by course and institution. Determine reasons for recent decline in female recruitment and identify measures to address this.	Admissions Officer with assistance from University Recruitment and Admissions team. Chair of TC.	November 2016 onwards on an annual basis.	Increase % female intake to reach 20% by 2019/20, which will require an increase (from 12% in 2015/16) of 2% each year. Implement survey of applicants to investigate or consider additional specific interventions on an annual basis, if target growth rate is not being met.
1.3	**Female UG student population proportion** Plan and organise recruitment and outreach activities to specifically target and attract females.	Assess appeal of publicity and marketing material to female students and effectiveness of targeted scholarships. Woman in Computer Science (WICS) is already established. Further opportunities for promotion of outreach considered.	Review Open Day activities and images used to ensure no unconscious bias. Explore additional YouTube and Computerphile videos of female students and staff (researchers and academic).	Marketing and Outreach team. Admissions Officer and Marketing support team. Assistance from Student Services and External Relations.	November 2016 onwards on an annual basis.	Increase % of female intake to 20% by 2019/20 from 12% (see 1.2) Positive messages from improved publicity and outreach to be identified and utilised in UG recruitment materials (web/brochure/presentations) [impact assessed in 1.2]
1.4	**Female staff and student involvement in UG recruitment** Increase numbers of females involved in Open Days.	Continue to recruit female UG student ambassadors. Include female presentations and increase opportunities for open day engagement with female staff for prospective students.	This has been implemented for 2017/18 recruitment cycle. Need to ensure back-up rota is in place for staff and students.	Open Day team led by Marketing and Outreach, with support from School Office and Student Services staff.	November 2016 onwards on an annual basis.	Achieve a minimum of 25% female involvement of total staff and students increasing to a target of 33% by 2019/20.
1.5	**Prospective UG student attendance at recruitment events** Collect data and assess gender split more systematically.	Review data and provide recommendations to the School as required if analyses indicate any issues or positive trends which can be built upon.	This has already been discussed with the Open Day and recruitment administrative teams.	Open Day team and Admissions Officer with assistance from University Recruitment and Admissions team.	November 2016 onwards on an annual basis.	Aim for target of 25% of female attendance of total open day attendees by 2019/20.

Action Point	Description of action	Action taken and outcome as of April 2017	Action planned from April 2017	Responsibility	Start Date and Timing	Success Measure
1.6	**Equality, Diversity and Inclusion awareness in UG population** Provide improved support for new and current students and collect data to allow for analysis.	Student societies HackSoc and Comp Soc are supported financially by the School and are reminded of EDI awareness and importance. Improve visibility of female and other diverse staff at UG events (cake drops/pizza/Chinese new year celebrations). Feedback on 'Guru' peer support in place with females. Women in CS network expanded through additional workshops and meetings.	Student societies have already been asked to record and provide gender and diversity analysis for events such as HackNotts. All new female UG students are offered a female 'Guru' as peer support. Women in CS network open to all females in School.	Senior Tutor, First Year Co-ordinator and Athena SWAN Officer.	November 2016 onwards.	Increase EDI awareness in UG student population measured by a student survey annually. Improved attendance of females at society and network events. Data have not been collected so the starting point and benchmarks will need to be determined over the next 4 years.

2. Gender Balance and representation in PG Student Population

2.1	**PGT application and intake data** Continue to assess to ensure we attract female students.	Currently strong and no issues identified but we need to ensure this continues.	Ensure data are collected annually and reported to TC.	Admissions Tutor and MSc Co-ordinator with assistance from University Recruitment and Admissions team. Chair of TC.	November 2016 reviewed annually.	Continue to recruit females above the Russell Group benchmark. Maintain % female intake at minimum of 10% above RG (CS PGT enrolment HESA data).
2.2	**PGR application and intake data** Continue to assess to ensure we attract female students.	Currently strong and no issues identified but we need to ensure this continues.	Ensure data are collected annually and reported to RSG.	DoR and PGRSA with assistance from University Recruitment and Admissions team. Chair of RSC.	November 2016 reviewed annually.	Continue to recruit females above the Russell Group benchmark. Maintain % female intake at minimum of 10% above RG (CS PGR enrolment HESA data).
2.3	**PGR completion times** Continue to evaluate to ensure there is no issues with respect to gender bias.	Establishment of PGRSA has assisted with early identification of problems with PhD study for PGR students. Completion rate data analysed and reviewed to identify emerging patterns and any concerns.	PGRSA will continue to review completion rates and report to RSG.	PGRSA and DoR as Chair of RSC.	November 2016 and reviewed on an annual basis.	PGR Completion rates for more than 6 year submission to be less than 20%, with female submission of theses being no lower than that of male.
2.4	**UG to PG Student Progression and Pipeline** Evaluate and review for enhanced Nottingham retention.	Despite offering Summer internships and generous scholarships, we are aware that few Nottingham UG CS students' progress to PGT and PGR study at Nottingham. Some of the reasons are known for this – 4 year MSci degrees and good employability prospects, but the School needs to better understand this and take action as appropriate.	SOG to consider exploring a review of Nottingham pipeline to determine what proportion of UG students go onto study elsewhere, including diversity analysis.	Led by DoT and DoR as Chairs of TC and RSG. With support from marketing and relevant University Services (careers service and market intelligence).	April 2017 start date. Report to be completed 2017/18 academic year.	Removal of any real or perceived barriers to progression, particularly for females. Review to establish measures and benchmark against competitor institutions.

Action Point	Description of action	Action taken and outcome as of April 2017	Action planned from April 2017	Responsibility	Start Date and Timing	Success Measure
3. Staff gender balance, representation and career development and progression						
3.1	**Recruitment processes for staff** Ensure this is fair for all vacancies. Encourage female applications and appropriate success rate.	Female panel representation is now in place on all academic and most research interview panels. Advice taken from HR on wording to ensure free from unconscious gender bias and demonstrate the School's positive attitude to working arrangements. The School appointed its first female Professor in 2015.	Check interview panel members have undergone Unconscious Bias and EDI training and put programme of training into place for new panel members.	Head of School and Director of Operations RSC for Research staff.	November 2016 and as vacancies arise.	Achieve an average of 20% of the overall proportion for female applicants for academic posts by 2019/20. 100% of interview panel members have panel or chair training (including EDI) by 2018/19.
3.2	**Research Careers Pipeline** Support female PhD and postdoctoral research staff considering academic careers. Identify and work to remove perceived barriers to progression.	Obstacles for career progression need to be determined and better understood (survey of PhD and PDRA's). Woman in CS network expanded to include post-doctoral researchers. Support is already available via the School's Grant Academy.	Explore mentoring opportunities that maybe available through learned societies. Explore the possibility of a faculty-wide mentoring scheme for female early careers researchers. Initiate a mentoring workshop.	Director of Staff Development and Director of Research as Chair of RSG. Chair of WICS.	April 2017 and onwards.	Increase the average of female applicant for level 4 and 5 research posts to 20% by 2019/20.
3.3	**Academic and Research Fellowships** Promote and support fellowship applications by removing barriers to encourage female applicants. Ensure processes for application are supportive.	CS staff have been very successful in obtaining fellowships, which are an excellent way to establish an independent academic career. Support is already available via the School's Grant Academy, which is a supportive review panel of senior academics, who provide advice on applications for funding, including fellowship grants.	The School will actively promote fellowship opportunities, including those such as the Ann McLaren scheme which targets female early career academics. The School will explore mentoring for applications with the assistance of the Faculty and assign a female mentor where possible.	Director of Research as Chair of RSG and School Grant Academy. Director of Staff Development and Director of Research.	November 2016 and onwards as fellowship opportunities arise.	Ensure submission of fellowship applications by female academics each year exceeds the female:male staff ratio, i.e. that there is over-representation of female fellowship applications.
3.4	**Female role models** Champion and publicise female role models within Computer Science.	The School hosts and/or participates in the annual Lovelace Colloquium. We organised the #techmums workshops in July 2016 which is described in sections 5.6 and 7. Case studies and other activities to publicise female role models are on School website and social media and Computerphile YouTube channel.	The School will explore opportunities to have female speakers for other events and collaborate with other Schools and Faculties to help publicise and champion high profile female role models. Ensure there is an annual review and update of marketing and publicity material to include role models.	Marketing and Outreach team with input from External Relations, Faculty Marketing and Faculty EDI Group.	Annually from the start of the academic year.	Host at least one event each year at which a female role model is a keynote speaker.
3.5	**Promotion opportunities and female gender balance** Support staff to strengthen promotions applications.	We already endeavour to ensure the School promotions process is fair and balanced for all staff. We need to develop specific mentoring procedures for female staff aiming for promotion which may involve staff from outside the School	Encourage female staff to attend/initiate mentoring meetings and join programmes such as Aurora and the University leadership development programme Develop initial polices on how to track and evaluate progress	HoS and Director of Staff Development	November 2016 and onwards.	Maintain representation of female staff of level 6 and 7 at greater than 25% of total staff.
3.6	**Female representation on committees** and in the decision-making process.	Female academics participate in all School committees and the numbers have improved over the past few years. The Director of Teaching, Director of Operations and Senior Tutor are all female and our female Professor is a Research Group Head and Chair of Industrial Advisory Board.	Ensure existing levels of representation are retained. We will seek further opportunities to involve additional female academics with School committees and to be observers on Faculty committees.	HoS, DoO and School Operations Group. Reviewed by SOG and SAT annually.	Annually from the start of the academic year.	All School committees to have active female involvement in decision-making, in line with or above female:male staff ratio. [Note that this needs care to ensure that females are not unfairly over-burdened with administrative work.]

Action Point	Description of action	Action taken and outcome as of April 2017	Action planned from April 2017	Responsibility	Start Date and Timing	Success Measure
4. School community, culture, organisation and support						
4.1	**Equality, Diversity and Inclusion** is embedded and promoted within the School, including unconscious bias.	Unconscious bias briefing took place at School staff meeting in March 2016. Information has been provided on persistent gender bias in science to staff.	Regular reminders and ensure this is part of induction for new staff. School will host an Equality and Diversity event that will be open to all staff and PhD students.	Director of Staff Development via SOG	November 2016 and onwards.	All staff and PhD students have EDI knowledge including unconscious bias and know how this applies to their areas of activity. This will be need to be measured by EDI event attendance and follow-up activities (survey and feedback).
4.2	**Athena SWAN engagement** and updated with information within School community.	Regular updates are already provided at staff and committee meetings (with student representative members) and on School web pages. SAT reports and updates are published via the workspace and Athena-SWAN-CS mailing list. School uses the Athena logo on email, recruitment and publicity information.	The Athena SWAN Action Plan and implementation of this and progress made will be reviewed. The submission and outcome of the award will be published and promoted to the School community.	Athena SWAN Co-ordinator and Chair of Athena SAT/EDC Faculty EDI Group	November 2016 and onwards with regular reviews by SAT/EDC of progress of action plan. FEDIG annual review.	School community (staff and students) is engaged with Athena SWAN. This will be evaluated by new participants and volunteers in SAT and related activities such as WICS and outreach and future survey and focus group responses.
4.3	**Wellbeing and a healthy life balance** is supported and promoted to the whole School community. Information is available to staff and students on existing School policies and processes. Encouragement of School community in well-being initiatives and monitor feedback on wellbeing.	The School already has a number of policies that are designed to recognise the need for a healthy work/life balance. These include arrangements for flexible working and adjustments for those with caring and out of work responsibilities; out of hours email traffic guidance and reduction of out of hours workload. From October 2016 a new web-based online annual leave system has been implemented for all staff (also being used to record conference and training activities and attendance). We run a School funded weekly pilates session and DoO has been instrumental in establishing a Jubilee campus based mindfulness pilot open to all staff. The School now has a dedicated student welfare officer (new post) who provides confidential support to both students and staff.	These policies will be reviewed and updated on the School Workspace and in the Staff Handbook and promoted at staff meetings and briefings. Following implementation of the new system annual leave uptake will be assessed. Sickness absence reporting will be actively managed, working closely with HR and Occupational Health. The School will consider and encourage other wellbeing activities and ask for community suggestions.	Director of Operations and Head of School via School Operations Group. Working with HR Business Partner and Faculty and University initiatives on wellbeing.	November 2016 and onwards with regular reviews by SOG.	Improved sickness management and information on absence, including transparency and support to staff. Online annual leave system dashboard and related management information available. Zero level of unexplained absence for staff and lower levels overall. Increased sense of wellbeing as measured by staff surveys and feedback from focus groups. University will need to provide advice to School on establishment and benchmarking of these wellbeing related data.
4.4	**Induction process for new staff** is improved and developed and procedures are in place to ensure that School organisation and support is understood.	Induction has been carried out at research group level and whilst this remains an important aspect there needs to be a more common and interactive approach for all staff joining the School. Induction checklist will be implemented for joiners.	Review of induction procedures and related documentation update.	Director of Staff Development and Director of Operations via School Operations Group.	Review from April 2017 and then annually.	Positive feedback from new staff on induction arrangements. This will be gathered as part of induction follow-up, PDPR quarterly review and regular meetings with line managers.
4.5	**Social interaction** is improved within School Community.	A larger and improved staff common room is available to encourage staff to interact socially and have breaks. The School has annual events open to all staff such as end of term social, quiz and Christmas activities. Staff participate in student community activities (see 1.6).	Encourage staff to use facilities and attend School social activities regularly. Assess uptake and record attendance. Ask for community suggestions to increase social interaction and activities. Consider establishing a social activities group.	Director of Staff Development and Marketing and Outreach Team	November 2016 and onwards with regular review.	Increased participation in social activities and events measured by attendance. School common room is well utilised and School has a vibrant sense of community. This will be measured by future staff surveys and feedback.

Action Point	Description of action	Action taken and outcome as of April 2017	Action planned from April 2017	Responsibility	Start Date and Timing	Success Measure
4.6	**PGR welcome and induction** Co-ordinate induction activities and extend best practice to all postgraduate research students.	A comprehensive welcome programme is in place for doctoral training students as part of our Horizon Doctoral Training Centre. We aim to extend and develop this as best practice to encompass all PhD students within the School.	Review current arrangements for all PhD programmes and instigate an improved induction and welcome programme.	PGRSA and Director of Research with CDT Training Manager via RSG.	April 2017 for implementation from 2017/18 academic year.	Increase induction participation and uptake by PGR students. Assessed by actual attendance and feedback (surveys and similar).
4.7	**Workload** Ensure that the workload model is fit for purpose and fair to all staff, including those who are part-time.	The School operates the University workload planning tool. Individual staff workloads and School context are available and used as part of discussions with reviewees within PDPR review process. Staff are able to feedback to reviewers and School Operations Group on workload.	Review academic staff workload and gather feedback from reviewers and staff. Ensure PDPR reviewers are consistent in workload discussions for part-time and staff taking sabbaticals. Assist University and Faculty in workload plan review and improvement process.	Head of School and Director of Operations and PDPR reviewers via School Operations Group.	November 2016 and onwards with annual review.	Improved staff satisfaction with workload for 2016/17 academic year reported in PDPR meetings in 2017.