



UNIVERSITY OF BIRMINGHAM

College of Engineering and
Physical Sciences

School of Computer Science

27 April 2016

It is my great pleasure to submit our application for the *Athena SWAN* Bronze Award. The analysis in our submission shows that women are under-represented at every level of our School. This lack of diversity is unacceptable and presents an ethical challenge that I, in concert with the whole School, am fully committed to addressing.

This submission is our second attempt to achieve the Bronze award. Our first, in 2013, was rejected. The feedback focused on the need for actions to be more SMART, an unconscious bias issue, and some concerns about culture and support. In response we have worked hard to address all areas of the feedback, to further understand the nature of the problems facing us and to engage staff and students in a progressive agenda. Our focus has been on the design and implementation of initiatives that address the serious underlying challenges faced by female computer scientists at all levels of the discipline.

For example, members of staff and students have engaged with addressing the fact that too few women enter the discipline. We have worked as founder members of the *Computing at Schools* initiative, which has persuaded the Government to introduce computer science at all levels of the high-school curriculum. We have also introduced a module, *Teaching Computer Science in Schools*, that aims to increase the number of our graduates entering the teaching profession. In addition, we have grown our program of school visits, and designed activities that engage female schoolchildren. We have continued a successful *Year in Computer Science* course that provides students from other disciplines with an introduction to computer science and that has our highest proportion of female students. Also, in addition to encouraging women to enter the discipline, we are engaged in a number of initiatives that are aimed at promoting female career progression. Importantly, for example, we offer a package of maternity assistance that goes beyond that offered by the University, and we include further measures in this submission. There is considerable innovation in each of these areas.

As the newly appointed Head of School, I will be keeping Athena, and equality and diversity in general, as a prominent standing item on our key committees. This is essential to ensuring that we maintain an explicit focus on the importance of promoting gender equality in computer science,

and it will constitute a sustainable structure for implementing the changes that we commit to in our action plan.

Throughout our application you will find a detailed analysis of the challenging situation we face, and many ideas for improvements. The unacceptably low number of female staff is a primary issue for the School—we consider it essential that all members of the School, irrespective of gender, actively engage in the action plan. I sincerely hope that the panel will recognise our enthusiasm throughout our application. As Head of School, I am personally very happy to commit myself to successfully implementing our action plan and ensuring that Athena's values are embedded throughout our School.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'A. Howes'.

Andrew Howes
Professor and Head of School
School of Computer Science
University of Birmingham

[NB: I have chosen to include my endorsement of women in the School within an appropriate section of the main text, namely 4: Organisation & Culture part b(i), to allow me to expand upon and bring together some other key matters here. – Andrew].



AthenaSWAN Bronze department award application

Name of university: University of Birmingham

Department: School of Computer Science

Date of application: April 2016

Date of university Bronze and/or Silver SWAN award: November 2014 (Bronze renewal)

Contact for application: Professor Andrew Howes

Email: hos@cs.bham.ac.uk

Telephone: 0121 414 4780

Departmental website address: <http://www.cs.bham.ac.uk/>

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

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

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

1. Letter of endorsement from the head of department: max 500 words

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

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

[NB: I have chosen to include my endorsement of women in the School within an appropriate section of the main text, namely 4: Organisation & Culture part b(i), to allow me to expand upon and bring together some other key matters here. – Andrew Howes, Head of School].

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Yours faithfully,



Andrew Howes
Professor and Head of School
School of Computer Science
University of Birmingham

Word count: 498

Acronyms and Abbreviations used in this application

Main acronyms and abbreviation	
UoB	the University of Birmingham
CoEPS	the College of Engineering and Physical Sciences (within Univ. of Birmingham) of which the School is a part
CS	Computer Science (the subject)
HoS	the Head of School
previous panel feedback	the feedback on our previous Bronze submission in 2013 ¹

Other acronyms	
ACM – W	Association for Computer Machinery – Council on Women in Computing
AI	Artificial intelligence
BCS	British Computer Society as was; the UK’s Chartered Institute for IT
E&D	Equality and Diversity
FTC	Fixed-term contract
PDR	Performance Development Review
PGR	Postgraduate Research
PGT	Postgraduate Teaching
RG	Russell Group
UG	Undergraduate

Note on data

Student and staff population data is drawn from an annual snapshot and represents a full academic year. Student application and degree data is based on the calendar year of entry/graduation. Staff recruitment and turnover data is by calendar year and promotions data by academic year.

Comparator data is drawn from HEIDI Russell Group data on ‘I.T., systems sciences and computer software engineering’.

Percentages are given either (a) to the nearest whole number or (b) to the nearest whole number or 0.5 value, depending on context.

¹ The way the present application responds to the feedback is summarised in Section 5.

2. The self-assessment process: maximum 1000 words

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

The School SAT

SAT members have a range of experience in terms of working patterns and work-life balance. Many have been involved in initiatives to promote gender equality in CS.

<i>SAT Member – staff</i>	<i>Role on SAT</i>	<i>Work/Life Balance (WLB) Issues</i>	<i>Other AthenaSWAN-relevant Characteristics</i>
<p>Andrew Howes Professor</p> <p><i>HoS from 1 May 2016</i></p>	<p>Advising on strategic and budgetary matters in the School.</p> <p>Overall shaping of the submission.</p> <p>Detailed contributions to analysing data and writing the submission.</p> <p>Effecting changes in the School (from 1 May 2016).</p>	<p>Works full time. Lives in Manchester for family reasons and uses the School's informal flexible working to balance time in Manchester with time in Birmingham.</p>	<p>Previous Equality Champion in the School.</p>
<p>Mark Lee Senior Lecturer</p> <p><i>Acting HoS (Jan-Apr 2016)</i></p> <p><i>The School's Head of Student Development & Support</i></p>	<p>Advising on strategic and budgetary matters in the School.</p> <p>Leading on student support & development matters.</p> <p>Effecting changes in the School (January-April 2016).</p>	<p>Works full-time. Shares caring responsibilities with his wife for their 6 year old daughter.</p>	<p>Organised national BCS <i>Lovelace Colloquium</i>. Panel member at 2015 BCS event on women in CS. Member of UoB's Access & Progress Committee.</p>
<p>John Barnden Professor</p> <p><i>SAT Chair and School Equality Champion</i></p>	<p>Overall leadership of SAT.</p> <p>Overall shaping of the submission.</p> <p>Leading on data analysis.</p> <p>Detailed writing of the submission.</p> <p>Communications with E&D interests throughout the University and with external bodies.</p>	<p>Works full time.</p> <p>WLB issues due to 1992-2013 long-distance commuting relationship with wife—handled by avoiding week-end work and using the School flexible working culture during week.</p>	<p>Extensive research collaboration with, predominantly, female academics, in English, Linguistics, Psychology, etc.</p>
<p>Christine Zarges Lecturer (early career)</p> <p>Birmingham Fellow (see sec 4: Key Transitions, b(i))</p> <p><i>SAT Vice-Chair</i></p>	<p>Assisting Chair in all operations.</p> <p>Analysing data.</p> <p>Representing female and early-career lecturing staff.</p>	<p>Works full time.</p> <p>WLB issues due to partner working beyond commuting distance—handled using the School flexible working culture to work distantly on Fridays and some Mondays, with lectures timetabled accordingly by the School.</p>	<p>Recipient of the Google <i>Anita Borg Memorial Scholarship</i> (2010). Graduate of the <i>Aurora Leadership Programme</i>. Experienced in outreach to female school pupils, and has mentored under ACM-W.</p>
<p>Samantha Furamera</p> <p><i>Operations Officer</i></p>	<p>Minute taking. Helping with document production.</p> <p>Mining School records.</p>	<p>Works full-time.</p> <p>Uses the School's flexible working culture to balance her working</p>	

& PA to HoS SAT Secretary		life and childcare commitments.	
Susan Squire UoB HR Staff Diversity Advise & UoB Athena Coordinator	Advising on Athena SWAN processes and issues. Main provider of data. Helping with detailed writing.	80% FTE. Shares caring responsibilities for their 2 year old with her husband.	
Ian Batten Lecturer (teaching focussed)	Representing male and early-career lecturing staff. Reading and commenting on submission drafts.	Works full-time. In moving from industry into FT PhD, adopted home/flexible working for childcare reasons, gaining experience with the difficulties and institutional policies.	
Rowanne Fleck Lecturer (early career, probationer)	Representing female and early-career lecturing staff. Reading and commenting on submission drafts. Collecting data from staff.	Works full-time. Uses the School's flexible working culture to balance working life and childcare.	Research interests include the impact of digital technology on work-life balance.
Lars Kunze Research Fellow	Representing research staff. Collecting data from staff. Reading and commenting on submission drafts.	Works full-time. Uses the School's informal flexible working culture to handle childcare (two infants) as wife often travels.	Experienced in outreach to school pupils (including females). The School's representative to CoEPS's (our College's) PERCAT (Postdoc. & Early Researcher Career Development and Training).
Iain Styles Lecturer The School's Senior Welfare Tutor	Leading on student welfare matters. Checking student and staff data. Reading and commenting on submission drafts.	Works full-time.	Extensive E&D experience as Senior Welfare Tutor and as member of University Primary Appeals and Senate Review Panels.
Helen Whitby The School's Admissions & Marketing Coordinator	Advising on admissions and marketing matters. Obtaining related data and liaising with administrative staff. Reading and commenting on submission drafts.	Works full-time. Uses leave / TOIL to help friend and family with childcare.	
Tina Leistenschneider Work-placement student from Germany, on SAT Jan-Apr 2016, working on marketing, etc.	Detailed information collection and analysis. Reading and commenting on submission drafts.	Works full-time.	

The roles of the student SAT members in the following table were to represent sections of the student body, comment on submission drafts, conduct student focus groups and otherwise liaise with students.

SAT Member – student	WLB	Other AthenaSWAN-relevant Characteristics
Helena Bower Year 2, MSci in CS with Industrial Year	Full-time	Founding member of the School's new <i>Connecting Women in Computer Science</i> group. WISE PR officer at Birmingham for 2016/17.
Sarah Kember Year 2, MSci in CS with Indust. Year	Full-time	Attendee at <i>Women in Technology, Women in Cyber 2016, IT meets High Tea</i>
Louisa Golden Year 3, BSc in CS	Full-time	<i>Cappemini Community Week Challenge</i> winner (2015). UG attendee at JP Morgan's <i>Women in Technology Dinner</i> and fast-tracked to their Graduate Scheme. <i>StemNet Ambassador</i> . Organiser of <i>Women in Technology</i> event, Birmingham, 2016.
Thomas Sammons Year 3, BSc in CS	Full-time	Member of the School's UG Staff/Student Consultative Committee. A year representative to School Committee and to the School's Computer Science Society.
Poppie Simmonds Year 3, MEng The School's UG Representative on E&D	Full-time	Member of the School's UG Staff/Student Consultative Committee. On BCS Women's Committee. Attended BCS Women's <i>Lovelace Colloquium</i> , 2014, 2015.
Swetha Charles MSc in CS The School's PGT representative on E&D	Full-time	Four-year member of <i>Cool Science</i> chapter in Colorado College. Organised annual <i>Girls' Day in the Lab</i> events.
Maria Salama PhD student The School's PGR Representative on E&D	Full-time	Participated in the <i>TechWomen</i> programme, USA, 2012 <i>Anita Borg</i> conference on Celebrating Women in Technology and 2015 <i>Grace Hopper</i> and ACM-W Europe <i>WomENCourage</i> Celebrations of Women in Computing, where she had publications. Helped found UK chapter of ACM-W, holding leading positions there, and organised its first <i>Inspire</i> Celebration of Women in Computing, 2015.

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

How the SAT operated

The HoS formed the SAT in October-November 2014 following the School's previous Bronze application, inviting John Barnden to be Chair. John enthusiastically accepted this position because of his longstanding interest in E&D issues in the discipline of CS. He invited Christine Zarges, who has also had a longstanding engagement with tackling these issues, to be Vice-Chair, and populated SAT through a call for volunteers, plus additional invitations, to ensure the group had a positive gender balance, representation of early-career staff and involvement of staff and of students already engaged in gender equality work.

In response to previous panel feedback, we increased student representation (from two to seven), male staff involvement (from two to six), academic staff involvement (from four to seven) and the variety of School roles represented.

The SAT first met in February 2015, and every month thereafter during term time, to jointly review and analyse data and practices, identify challenges and develop our action plan. Our understanding of Athena was developed through attending UoB's Central Athena Working Group and UoB-wide events, such as Professor Averil Macdonald talk on WISE's *People Like Me* approach to engaging female school pupils in science, which is important in our Actions below. SAT members also attended the *Athena for CS* Workshop in December 2014 at BCS's HQ.

The SAT sought to learn from best practice. In particular, we sought the advice and views of the UoB Athena Coordinator, the E&D Head in CoEPS [College of Engineering and Physical Sciences], other School-level Athena Leads at UoB, and CS colleagues at UCL and Nottingham. This directly contributed to the design of actions about, for example, scouting for staff, developing "proleptic" lectureships [explained later], and offering Post-Break Awards. SAT members also attended the national *Computing at Schools* conference in 2015, which has informed actions about outreach to schools and about our marketing materials.

The development of our award application has been a joint effort, with SAT members being allocated specific tasks as needed, such as researching factual information, checking records, organising focus groups and contributing text. The Acting HoS (Mark Lee) and forthcoming HoS (Andrew Howes) played pivotal roles, notably because of Mark's longstanding intense activity on student support and Andrew's long involvement with the E&D agenda. Quantitative data was provided by UoB's HR and Planning teams. All SAT members were involved in reviewing drafts of the application.

Staff and student consultation

The SAT conducted staff and student focus groups in 2015, with separate groups for UGs, Master's students, PhD students and staff. Groups were well-attended, typically with five members per session. These consultations provided valuable insight into staff and student experiences and have resulted in specific measures already taken, such as limiting research seminars to core hours, creating student E&D representatives, and instituting a *Connecting Women in CS* group (combining mutual support and organisation of women-in-CS-related events), as well as defining many new Actions in our plan, from developing more inclusive marketing materials to providing a childcare allowance in conference trip funding.

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

UoB has instigated a network of Equality Champions in each academic School. In light of this, from June 2016, SAT will become the *Equality and Diversity Committee (EDC)*, to ensure the School has a focus on all equality issues (LGBTQ..., race, age, ...) and to avoid duplication of effort. The SAT Chair also acts as the School Equality Champion and will chair the EDC. The membership of the EDC will be reviewed, especially to address the new Athena SWAN coverage of non-academic staff, and will in particular have a computer-support staff representative (in response to previous panel feedback).

The EDC will have responsibility for overseeing implementation of our Athena action plan. The full team will meet once a term, but with additional meetings of focussed sub-teams on specific issues. The SAT/EDC will include the HoS; it will report to School Committee (which includes all staff); and the Chair will sit on the School's Management Committee. (School Committee is the School's overall governance body, with the Management Group dealing with week-by-week operations on its behalf.) But also, crucially, E&D is now a standing item on the following committees: *HoS's Advisory Group; Management Group; the Staff/Student Consultative Committees; Teaching Committee; Research Committee; and Research Student Monitoring Group*. This will enable the SAT to table action plan items with the relevant committees, and thereby effect and monitor change throughout the School in an efficient and sustainable way. This approach will richly embed the E&D agenda in the culture and detailed working and development of the School.

Outside of the School's reporting structure, the School Equality Champion (and SAT Chair) attends regular CoEPS E&D meetings chaired by the College's Equality Champion and attended by the other School Champions. This provides ample opportunity to engage with other Schools on Athena activities and share best practice. The College's Equality Champion in turn reports to the UoB Equality Executive Group on Athena progress.

We are confident that these arrangements will provide a richly supportive structure for successfully delivering our action plan.

Word count: 894

3. A picture of the department: maximum 2000 words

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

The School of Computer Science is one of seven Schools in the College of Engineering & Physical Sciences (CoEPS) at the University of Birmingham (UoB). The School is academically strong; in REF 2014 we were 8th amongst all institutions for research intensity. The *Guardian League Table* 2016 places us 4th amongst CS departments (and 1st in 2014), with 96% course satisfaction rate and 89% of graduates employed within six months. We have been in the top ten UK CS institutions in the *Complete University Guide* from 2014 to 2016 and, in the National Student Survey, for CS we are typically in the top two in the Russell Group and top five nationally.

Our research strands are diverse, with much that engages the interdisciplinary potential of CS. Examples include: links between automated learning and physics; work on computation styles inspired by biology (e.g. evolution); AI investigation into emotion detection and the nature of consciousness; human-computer interaction work on work-life balance; cognitive robotics; innovative image processing aiding cancer detection; and, appositely, artificial-life simulation for exploring development of gender inequalities in professional hierarchies such as in universities.

Interdisciplinarity is inherent also in much of our educational offering—for example, joint undergraduate degrees variously involving Business, Mathematics and Natural Sciences, and Master's courses in Human-Computer Interaction and Cognitive Neuroscience & Cognitive Robotics. We also offer an innovative *Year in Computer Science*, allowing UGs from any discipline to insert a CS year before their final year, and having a higher female proportion (a third) than our own undergraduate population has (a seventh).

We feel that this educational and research diversity is a strong pull-factor in attracting staff and students, especially students who may not otherwise consider a career in CS.

Across UK universities and internationally, CS as a subject has traditionally attracted significantly fewer women than men. This national under-representation is true of the School, as our student and staff data demonstrates. In the staff case the picture is particularly concerning. As a leading UK CS department offering diverse and innovative programmes, however, we have a strong basis from which to address these challenges and ensure we attract more female staff and students.

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

Student data

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

The School receives only a few students from UoB’s foundation schemes (*Birmingham International Academy* and *CoEPS Home Foundation Year*) and the *Access to Birmingham (A2B)* widening-participation scheme, combined: four-eight annually from 2013/14, including one female in 2013/14 and 2014/15, with only 16 students acquired altogether over the three years.

The School does not administer the foundation or A2B schemes, but UoB does seek to attract a diverse range of applicants and to increase female representation in STEMM courses. The School is concerned to increase the intake through such schemes, with recruiting female applicants a priority. Hence:

Key Action (in action plan section A)

- Work with UoB Widening Participation colleagues to increase recruitment of female undergraduates into the School via foundation and A2B schemes, and especially to enrich the female- and CS-orientated aspects of their marketing and outreach activities.

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

Figure 1: The School’s and Russell Group female UGs

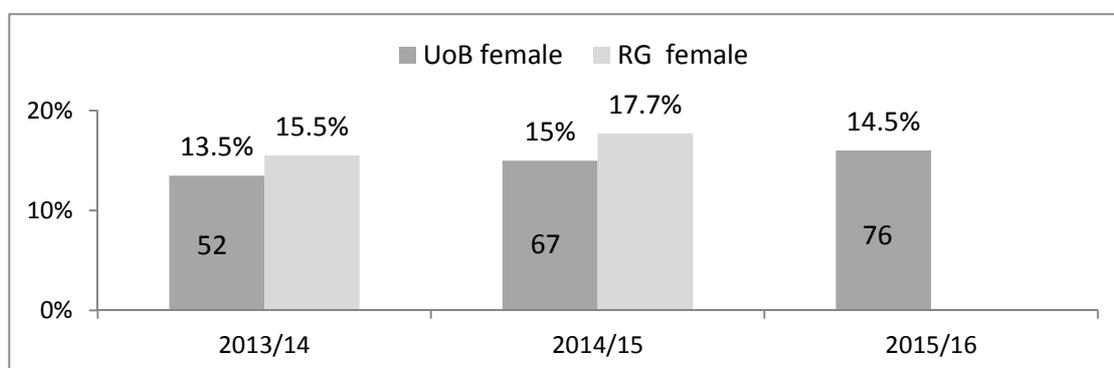


Table 1: The School's UGs by gender			
	Female UG	Male UG	Total UG
2013/14	52	339	391
2014/15	67	384	451
2015/16	76	442	518

The School's female UG population has increased by 46% over the period, but our overall percentage of female UGs is still low, and lower than the Russell Group average, which is itself low. Taking action to grow our female UG numbers is a priority. In this we recognise the challenges of socially-driven perceptions of CS, which can affect the GCSE, A-level and degree choices that, especially, female students make. This has been emphasised by focus groups of students, national *Computing at Schools* conferences, and a talk at UoB by Professor Averil Macdonald on the WISE *People Like Me* approach to engaging schoolgirls in science.

That approach emphasises characteristic-driven ("what are people in this job/degree like, and how does that fit what I'm like?") ways of describing STEM subjects, as opposed to action driven ones ("what do people in this job/degree do, and how does that fit what I can do?") A WISE report (*Not For People Like Me*) also emphasises the effectiveness of discussing female under-representation at marketing events and maintaining communication with parents.

We will take action to challenge perceptions of who studies CS and makes a successful career from it. We will use our marketing materials, outreach work and open-day events to promote a positive message about women in CS, exploiting new approaches such as *People Like Me*.

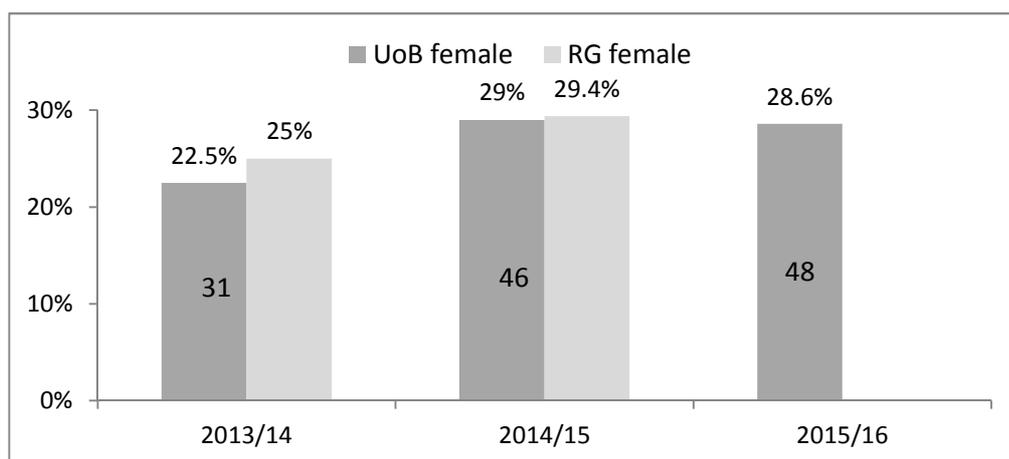
Key Actions (UG student recruitment, action plan sections A & B):

- Pursue the Outreach actions in section A, including the Widening Participation one above.
- Review all marketing/open-day materials, online and printed, to challenge perceptions of CS as a 'narrow' subject, and emphasizing the breadth, diversity, flexibility and student-initiative opportunities of a degree at the School especially. Include more quotations from female students about what makes CS, and the School in particular, so interesting and diverse.
- Embed the WISE *People Like Me* characteristic-based approach in our marketing materials and events to help them be equally attractive to both male and female applicants.
- Achieve 50/50 gender representation in student/alumna/alumnus/staff case studies, stories and images on our webpages and other marketing materials.
- Develop a set of posters for display in the School featuring prominent Computer Scientists, with 50% being female.

- Ensure that at open days and applicant visiting days: talks provide prominent representation of women in CS, female staff and students are visible and approachable by attendees [already achieved], and our *Connecting Women in CS* student group have a stand.
- Modify our Applicant Visitor-Day feedback forms to explore the impact of the above on perceptions of CS and of the School [already in process]
- Hold an annual focus group with starting female students to identify what attracted them into CS and the School in particular, and build insights obtained into our recruitment activities.

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

Figure 2: The School's and Russell Group female PGTs



	Female PGT	Male PGT	Total PGT
2013/14	31	107	138
2014/15	46	112	158
2015/16	48	121	169

Our female percentage at PGT is better than at UG, and has increased from 2013/14 to the present cohort. We need to sustain and to increase both the number and percentage, whether the new PGTs come from outside or from within the School. Actions mentioned above for UG recruitment will also help with external PGT recruitment, and below there are extra actions for internal recruiting.

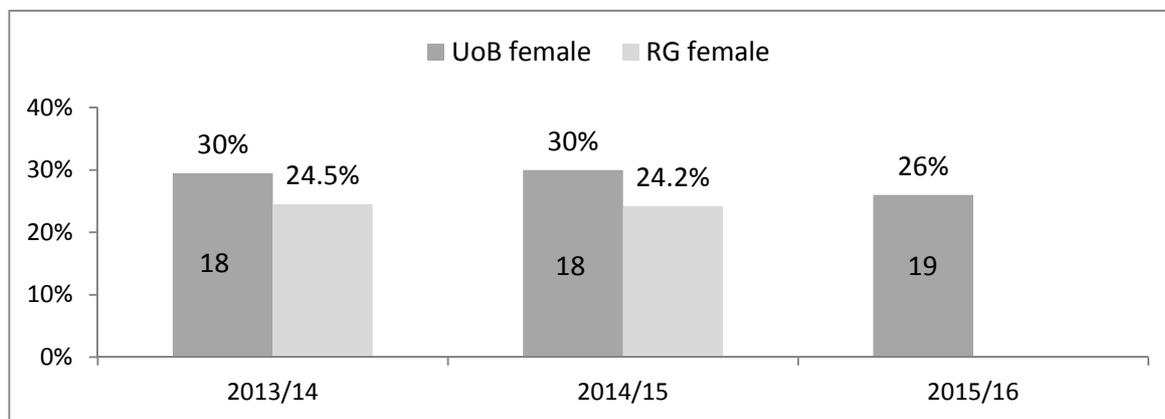
Our *Year in CS* students from other UoB departments have increased the pool of students suitable to enter some of our Master’s programmes. *Year in CS* has had 40 students on average, of whom 30% female, a markedly higher proportion than the School’s own female UG percentage.

Key Actions (PGT Recruitment, action plan sections B and C)

- Pursue the actions in group B, outlined in section 3b(ii) on UGs. They apply equally to recruiting PGTs from elsewhere.
- Promote our Master’s courses to our final-year UGs, our “conversion” PGTs, and our current *Year in CS* students, and remind the previous year’s *Year in CS* students [who would now be in their home School’s final year] about them.
- Explore measures to increase our *Year in CS* population and its female representation.

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

Figure 3: The School’s and Russell Group female PGRs



	Female PGR	Male PGR	Total PGR
2013/14	18	43	61
2014/15	18	42	60
2015/16	19	54	73

We have sustained a comparatively high percentage of female PGTs over the last three years. The decrease from 30% to 26% in 2015/16 is due to the increase in male numbers, not a reduction in female numbers. The percentage compares well with the RG average, giving us a firm base for further improvement.

The data suggests that our PGT/PGR recruitment is more effective in recruiting women than our UG recruitment, and that our activities should prioritise UG recruitment. However, admissions data below indicates that a gender-imbalance issue regarding PGR offers (see part (v) and a Key Action there). Our PGR focus group also indicated that greater promotion of flexibility of study would be beneficial as students are often parents or child-carers.

Key Actions (PGR Recruitment, action plan sections B and D)

—see also PGR segment of part (v)—

- Pursue the actions in group B, outlined in section 3b(ii) on UGs. They mostly apply equally to recruiting PGRs from elsewhere.
- Give more advice to our taught students about undertaking a PhD, or a research Master's programme as a precursor.
- Advertise our existing part-time PhD option more prominently in our marketing materials.

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

Undergraduates

Figure 4a: The School’s UG applicants by gender

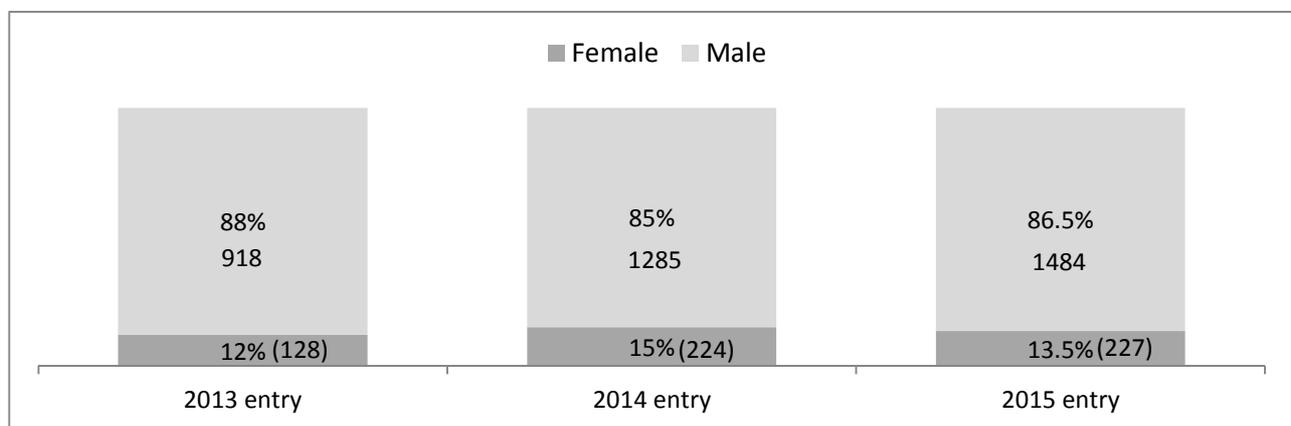


Figure 4b: The School's UG offer and acceptance rates by gender

Offers and acceptances are presented as a % of applications. E.g. in 2013, of all female applicants 61% received offers and 27% accepted the offers

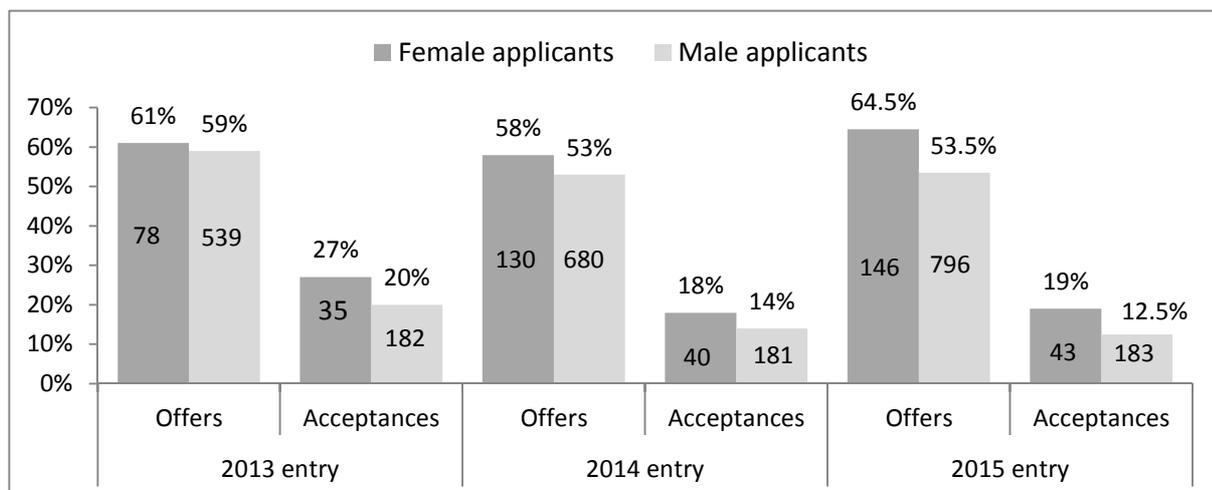


Table 4: The School UG's applications, offers and acceptances by gender.

The percentages in the Acceptances column are percentages of all Acceptances in the year; e.g. in 2013, 35 is 16% of 217.

The Accepts/Offer column shows what proportion of Offers were Accepted by students;

e.g. in 2013, 35 is 45% of 78.

		Applications	Offers	Acceptances	Accepts/Offer s
2013 UG entry	Female	128	78	35 (16% of Accepts)	45%
	Male	918	539	182	34%
	Total	1046	617	217	
2014 UG entry	Female	224	130	40 (18% of Accepts)	31%
	Male	1285	680	181	27%
	Total	1509	810	221	
2015 UG entry	Female	227	146	43 (19% of Accepts)	29%
	Male	1484	796	183	23%
	Total	1711	942	226	

The data presents a mixed picture. We have a low proportion of female UGs and this is reflected in the application data, with female applicants merely constituting 12% - 15% over the period.

However, a higher proportion of female applicants than male are made an offer (see Figure 4b), and a higher proportion of female than male UGs with an offer accept the offer (see Accepts/Offers column). This has happened consistently over the three years. Additionally, from the Acceptances column, the increase in acceptances has been almost entirely female. The recent female percentage of acceptances, 18-19%, is higher than the School's female percentage of current students (14.5%). These facts may be partly due to our friendly Applicant Visitor Days, which consistently receive positive feedback from students, parents, etc.

We find these positive points encouraging for our fight against our low female numbers. They suggest lack of anti-female bias in student admissions processes and a positive perception of the School by female applicants. Thus, what is key is actions (below) to **attract more female UG applicants**, while sustaining that positivity and avoidance of bias.

[Please proceed to next page]

Postgraduate taught

Figure 5a: The School's PGT applications by gender

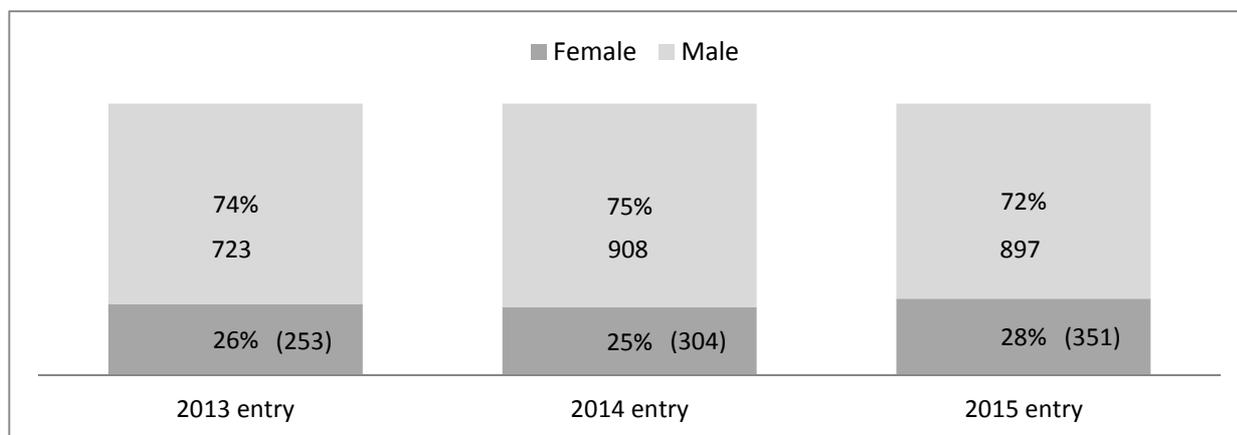


Figure 5b: The School's PGT offer and acceptance rates by gender

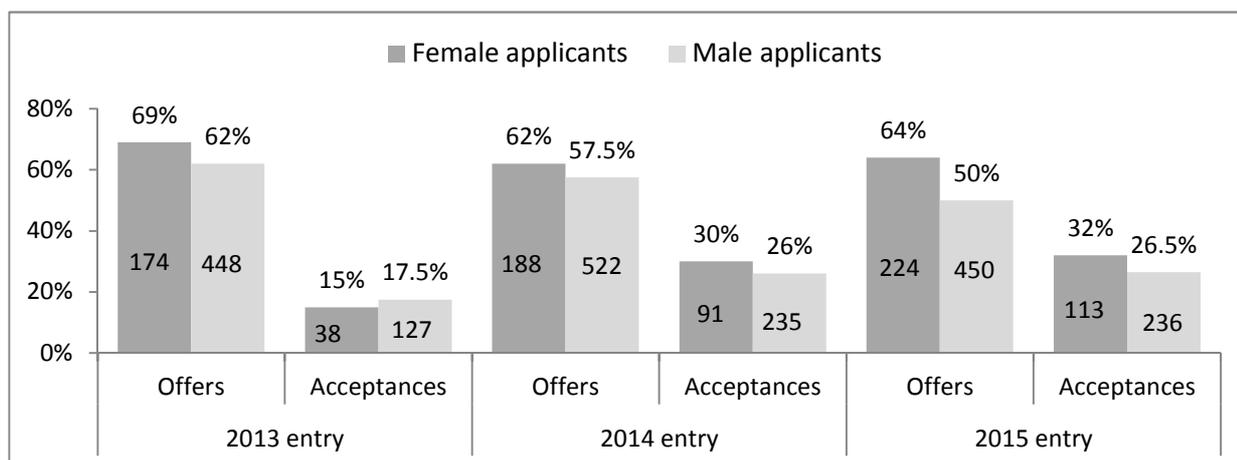


Table 5: The School's PGT applications, offers and acceptances by gender.

The percents in the *Acceptances* column are percentages of all Acceptances in the year; e.g. in 2013, 38 is 23% of 165.

The *Accepts/Offers* column shows what proportion of Offers were Accepted by students;

e.g. in 2013, 38 is 22% of 174.

		Applications	Offers	Acceptances	Accepts/Offers
2013 PGT entry	Female	253	174	38 (23% of Accepts)	22%
	Male	723	448	127	28%
	Total	976	622	165	
2014 PGT entry	Female	304	188	91 (28% of Accepts)	48%
	Male	908	522	235	45%
	Total	1212	710	326	
2015	Female	351	224	113 (32% of	50%

PGT entry				Accepts)	
	Male	897	450	236	52%
	Total	1248	674	349	

Fewer than 30% of applicants are female but they are more likely to be made an offer. Again, there is a steady rise in the female Acceptances percentage. The Accepts/Offer percentages do not show a consistent pattern, but are similar for male and female.

[Please proceed to next page]

Postgraduate research

Figure 6a: The School's PGR applications by gender

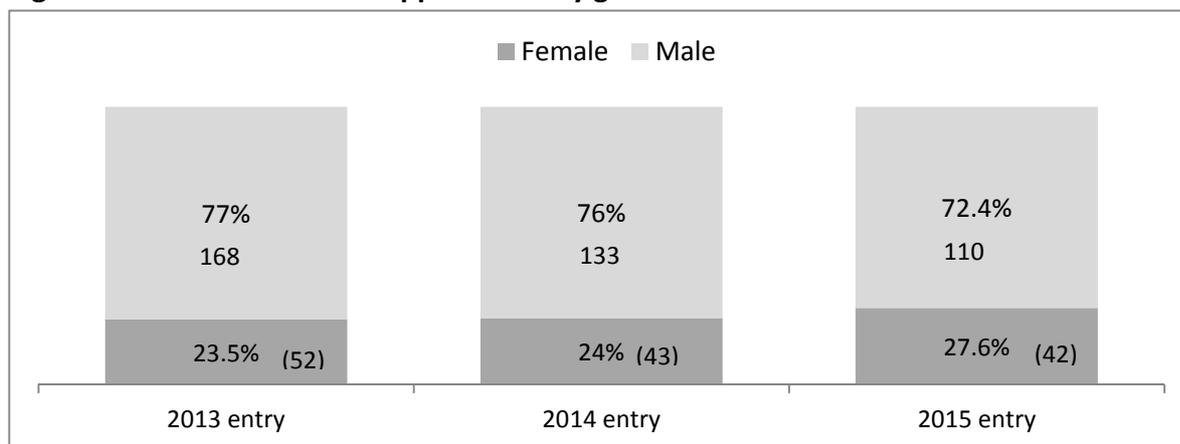


Figure 6b: The School's PGR offer and acceptance rates by gender

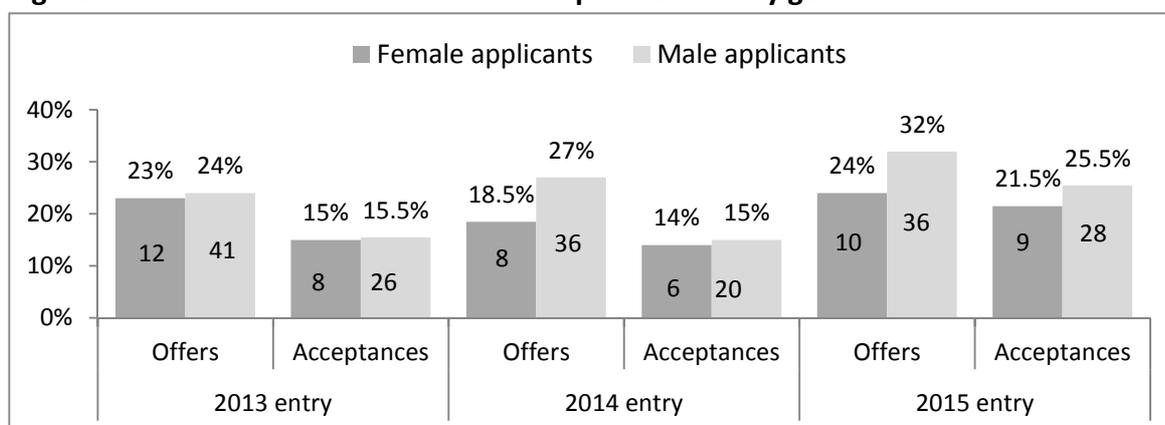


Table 6: The School's PGR applications, offers and acceptances by gender

NB: The female percentages of Accepts and the female Accepts/Offers percentages are included as before, but must be treated with caution because of the small numbers involved.

		Applications	Offers	Acceptances	Accepts/Offers
2013 PGR entry	Female	52	12	8 (24% of Accepts)	67%
	Male	168	41	26	63%
	Total	220	53	34	
2014 PGR entry	Female	43	8	6 (23% of Accepts)	75%
	Male	133	36	20	56%
	Total	176	44	26	
2015 PGR entry	Female	42	10	9 (24% of Accepts)	90%
	Male	110	36	28	78%
	Total	152	46	37	

The PGR offer and acceptance data is different from the pattern noted in the UG and PGT data. PGR offer rates (Fig. 6b) for the last 2 years (and to some extent acceptance rates) have been

lower than for males. We need to establish why this is, and why the positive UG/PGT pattern largely does not apply here, and to take appropriate firm action. Clearly PGR is a key transition point in the national CS pipeline, and in turn impacts on the movement of females into post-doctoral positions nationally.

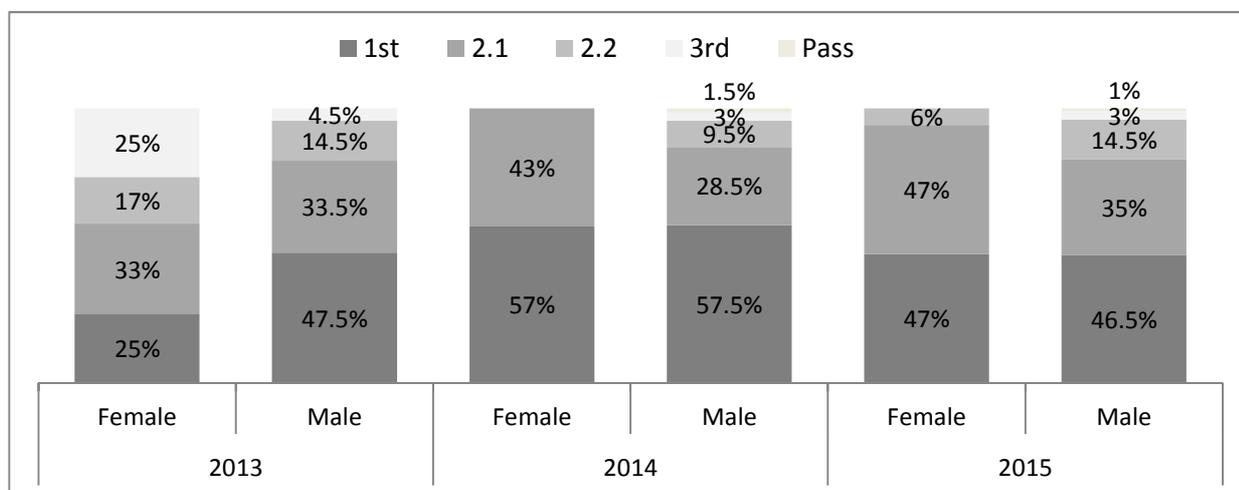
Key Actions (PGR Recruitment, action plan section D), supplementing those in (iv)

- Ensure that evaluation of candidates is done by a gender-balanced group of staff, calling on research staff for this, if necessary, to spread the load.
- Investigate lower female PGR offer rates to identify if there is any bias, and, if so, identify actions to address it.

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

Undergraduate

Figure 7: UG degrees by gender



		1st	2.1	2.2	3rd	Pass	Total
2013	Female	3	4	2	3	0	12
	Male	32	23	10	3	0	68
	Total	35	27	12	6	0	80
2014	Female	4	3	0	0	0	7
	Male	39	19	7	2	1	68
	Total	43	22	7	2	1	75
2015	Female	9	9	1	0	0	19
	Male	32	24	10	2	1	69

	Total	41	33	11	2	1	88
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In 2014 and 2015 female students did as least as well as males, attaining equivalent first class honours degrees, although the female attainment was poorer than the male in 2013. We will continue to monitor degree data but do not propose any specific actions at this stage.

Postgraduate Taught

Figure 8: PGT degrees by gender

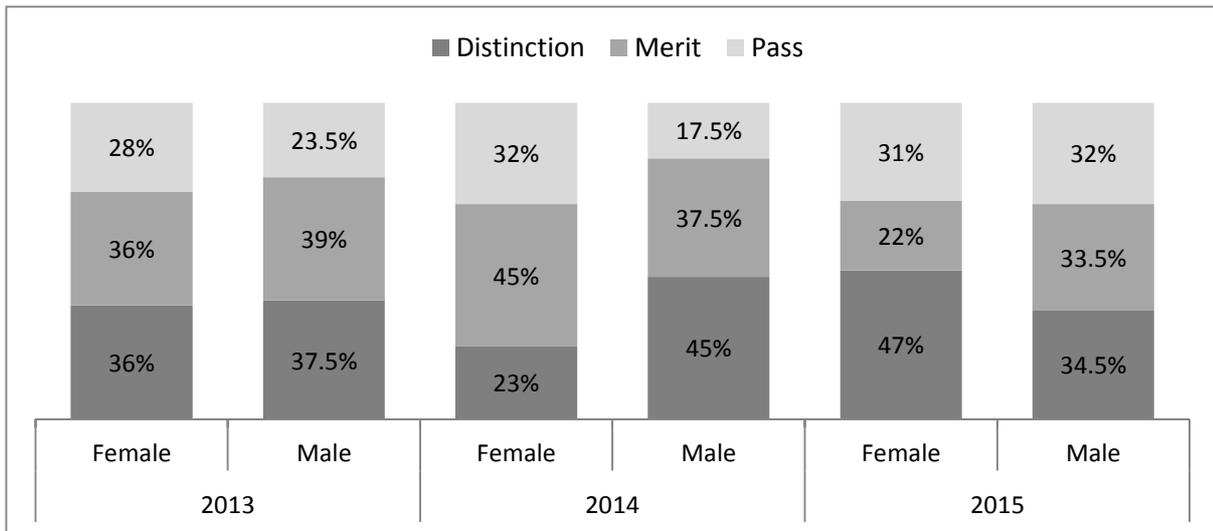


Table 8: PGT degrees by gender

		Distinction	Merit	Pass	Total
2013	Female	9	9	7	25
	Male	27	28	17	72
	Total	36	37	24	97
2014	Female	5	10	7	22
	Male	36	30	14	80
	Total	41	40	21	102
2015	Female	21	10	14	45
	Male	40	39	37	116
	Total	61	49	51	161

The degree outcomes for female and male PGTs varied over the three years, with no obvious gender trends. We will continue to monitor the data, but do not propose any specific actions at this stage.

Section 3b contd –Staff data

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

Figure 9a: The School’s and Russell Group female academic and research staff

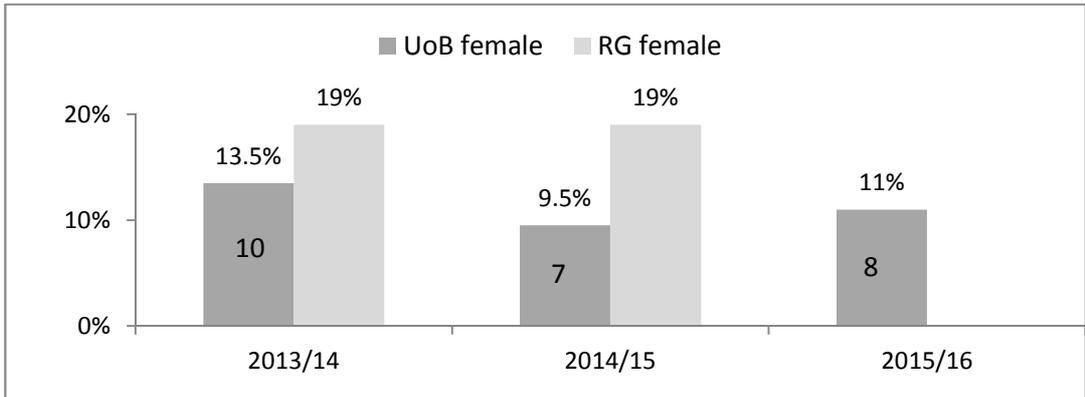


Figure 9b: The School’s female academic and research staff as % of each grade(2013/14)
(Numbers at the bottom are job grades.)

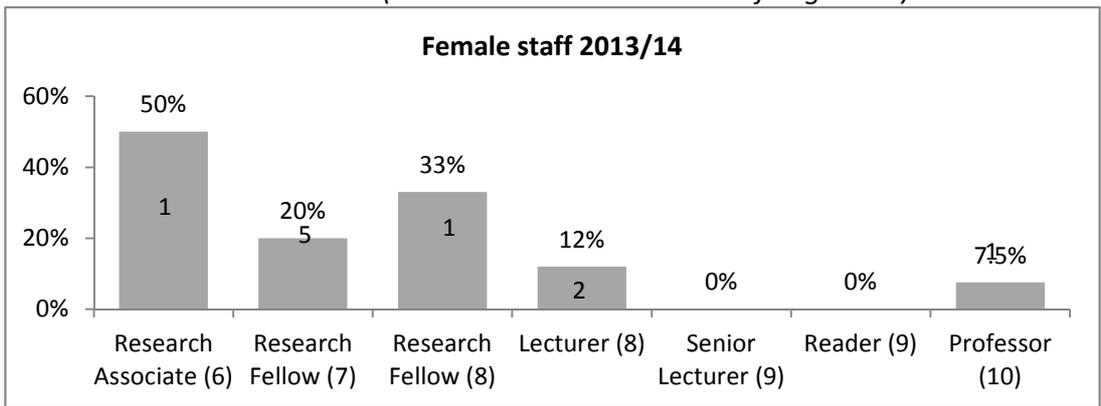


Figure 9c: The School’s female academic and research staff as % of each grade (2014/15)

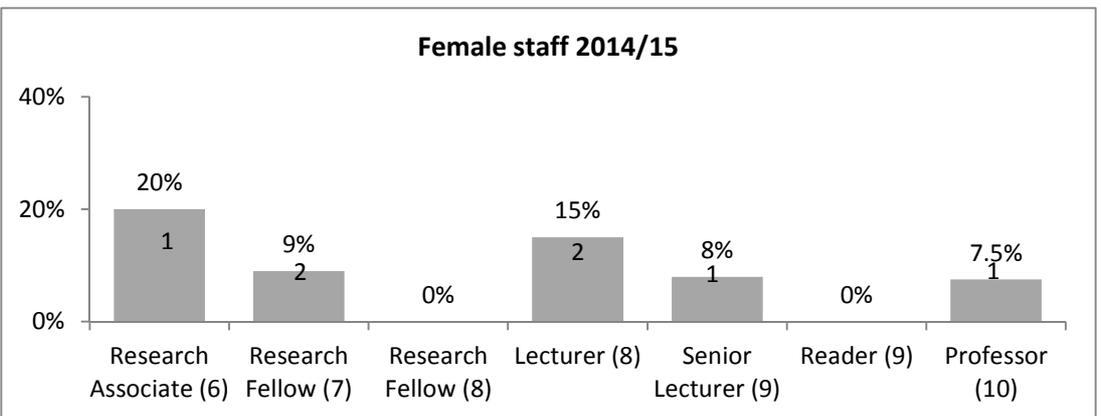
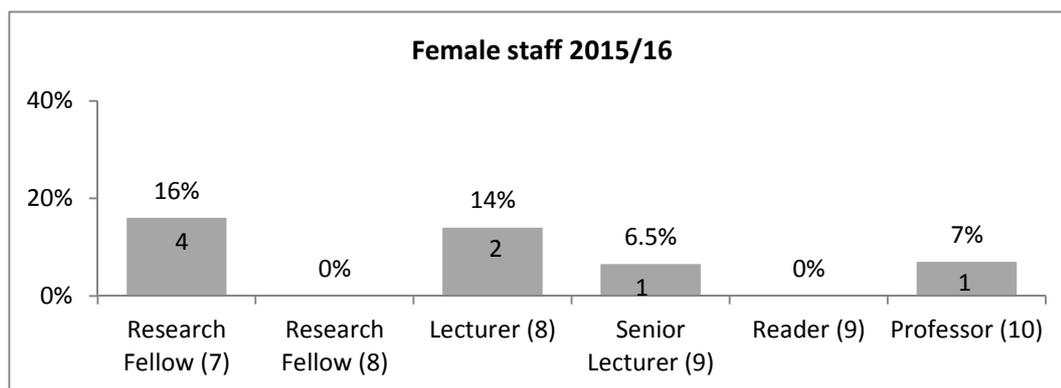


Figure 9d: The School's female academic and research staff as % of each grade (2015/16)



		2013/14		2014/15		2015/16	
		Female	Male	Female	Male	Female	Male
Grade 6	Research Associate	1	1	1	4	0	0
Grade 7	Research Fellow	5	20	2	20	4	21
Grade 8	Research Fellow	1	2	0	4	0	2
	Lecturer	2	15	2	11	2	12
Grade 9	Senior Lecturer	0	11	1	11	1	14
	Reader	0	3	0	4	0	4
Grade 10	Professor	1	12	1	12	1	13
Totals	Total by gender	10 (13.5%)	64	7 (9.5%)	66	8 (11%)	66
	Grand total	74		73		74	

The School has few female research/academic staff, with women accounting for only 8 of 74 staff (11%) in 2015/16. Whilst under-representation is sector-wide, we are significantly below the RG CS average of 19%.

The last three years have seen no growth in the female staff numbers. Half of the School's female staff are employed below Lecturer grade, compared to a third of male staff. At Lecturer grade, 2 of 14 staff are female (14%), one Senior Lecturer of 15 is female, there are no female Readers, and only one of our 14 Professors is female.

This under-representation – both overall and at senior level – is a serious issue for the School. We are one of the leading UK CS departments and seek to employ the best people in our field regardless of gender. We also want to provide positive female role models for our students and promote CS as a career for all. Our challenge is to increase our number of female staff overall and, in particular, to increase Lecturer recruitment at to feed the pipeline for promotion to more senior

posts. Our recruitment data below further indicates that we need to do more to both attract and appoint female Lecturers and above. Accordingly we have identified key actions concerning:

- Recruitment (section 4, and action plan section E)
- Career development and progression (section 4, and action plan section F)
- Organisation and culture (section 4, and action plan section H).

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

Figure 10a: The School’s staff leaving, by gender and calendar year

Explanation: E.g., in 2013, 18% of staff leaving were female, and were 4 in number.

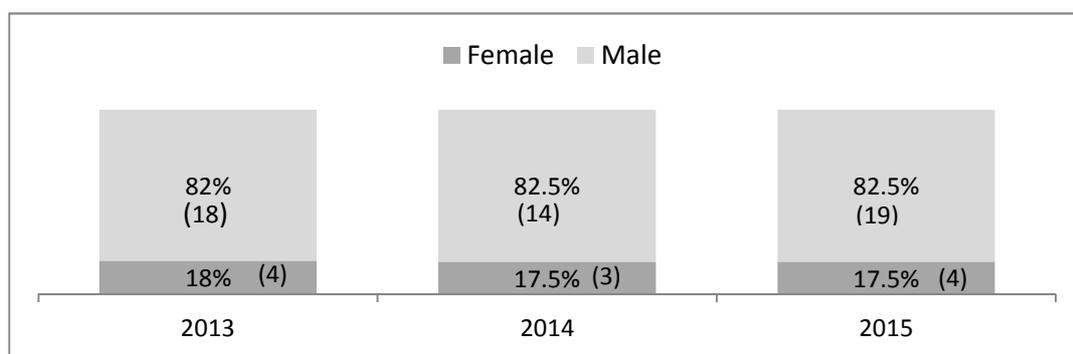
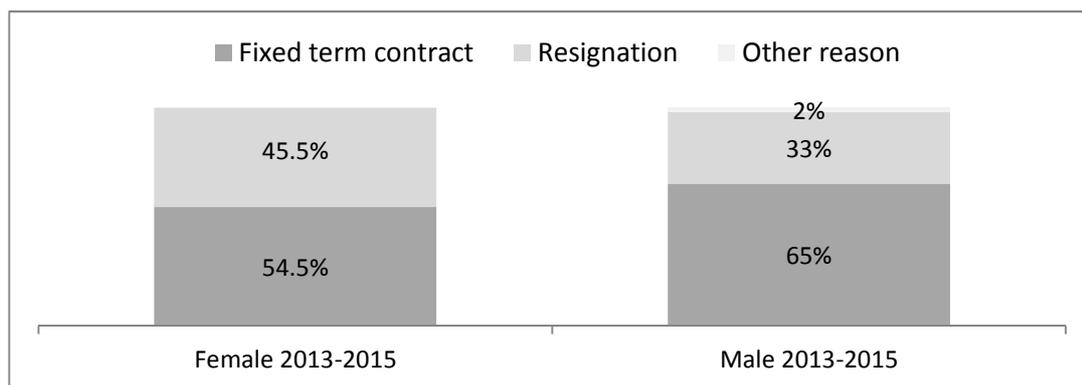


Figure 10b: Reasons for leaving by gender (combined calendar years 2013-15)

“Fixed term contract” here indicates the scheduled ending of such a contract.

Resignation is from a fixed-term or open contract.



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Table 10a: Female staff leaving 2013-2015			
Year	Role and Grade	Reason for leaving (FTC = Fixed Term Contract scheduled end)	Total leavers
2013	Research Fellow (7)	FTC	3
	Research Fellow (8)	Resignation	1
2014	Research Associate (6)	Resignation	1
	Research Fellow (7)	FTC	1
		Resignation	1
2015	Research Associate (6)	FTC	1
	Research Fellow (7)	FTC	1
		Resignation	2
Total			11

Table 10b: Male staff leaving 2013-2015			
Year	Role and Grade	Reason for leaving	Total leavers
2013	Research Associate (6)	FTC	2
	Research Fellow (7)	FTC	8
		Resignation	7
	Lecturer (8)	Resignation	1
2014	Research Associate (6)	FTC	2
		Resignation	1
	Research Fellow (7)	FTC	3
		Resignation	2
		Other reason	1
	Lecturer (8)	Resignation	3
	Reader (9)	FTC	1
Professor (10)	Resignation	1	
2015	Research Associate (6)	FTC	3
	Research Fellow (7)	FTC	12
	Research Fellow (8)	FTC	2
		Resignation	1
	Reader (9)	Resignation	1
Total			51

The female percentage of turnover during this period (~18%) is higher than the female staff percentage (11%) although, given the small numbers, small changes can strongly affect the percentage. Eleven female staff have left, for reasons evenly balanced between resignation (5) [i.e., leaving an open contract or leaving an FTC before its end] and scheduled FTC ending (6). Contrastingly, only one-third of men left by resignation.

Of the 5 female staff (all researchers) who resigned, we know the destinations for four, and these constituted career progression. Two progressed to CS lectureships, and one to a UK computing research institute position. The fourth was a Research Associate who switched to a new CS area, becoming a research student in this area with us. However, we need henceforth systematically to monitor resignation reasons, in case female research staff continue to resign more frequently than men.

Key Action (in action plan section F):

- Monitor reasons for staff (especially researchers) resigning, e.g. by means of exit interviews, and take action on issues identified especially when differently affecting males and females.

We also have actions in section 4 (Career Development and Flexibility subsections) to provide improved support of researchers.

Word count: 1,704

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

Key Career Transition Points

- a) **Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.**
 - (i) **Job application and success rates by gender and grade** – comment on any differences in recruitment between men and women at any level and say what action is being taken to address this.

To reveal most accurately how we engage with applicants, Figures 11a-e do not involve the numbers of actual appointments commenced but rather offers of (non-named) appointments. However, the counts of offers actually accepted are in Table 11, as “(non-named) appointments started”, and are then discussed.

We address only research staff and lecturers. A male professor was also appointed in the period, but this was done through a headhunter, and we have no data about the pool they searched within. We received a long-list of eight candidates, all male. We include an Action in part b(i) about gender-balance in future headhunting.

[Please proceed to next page]

Figure 11a: All job applications, shortlisting and offers by gender and year

(The female Offer percentages are to be treated with caution, as the female Offer numbers are small: 5, 4, 2 in 2013, 2014 and 2015 respectively.)

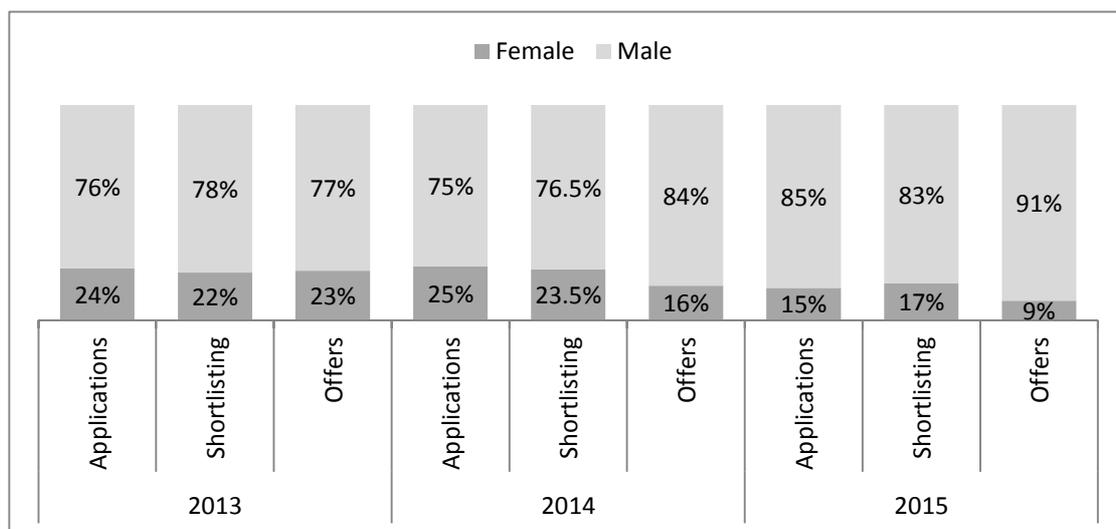


Figure 11b: 2013-2015 job applications, shortlisting and offers by gender and grade

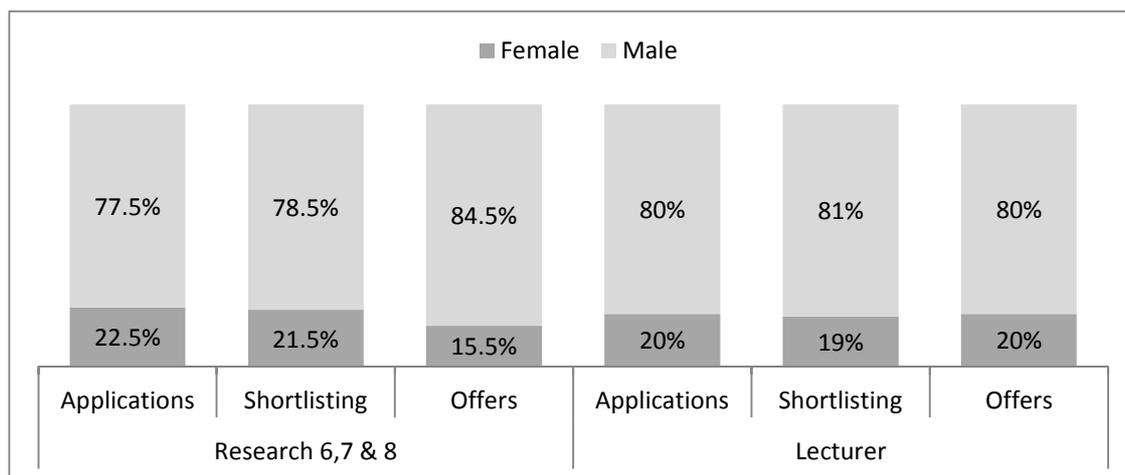


Figure 11c: Job offers by grade as % of applications within each gender

(NB: Percentages in female and lecturer cases (either gender) are barely indicative of tendencies, being vulnerable to fluctuation, as numbers are small.)

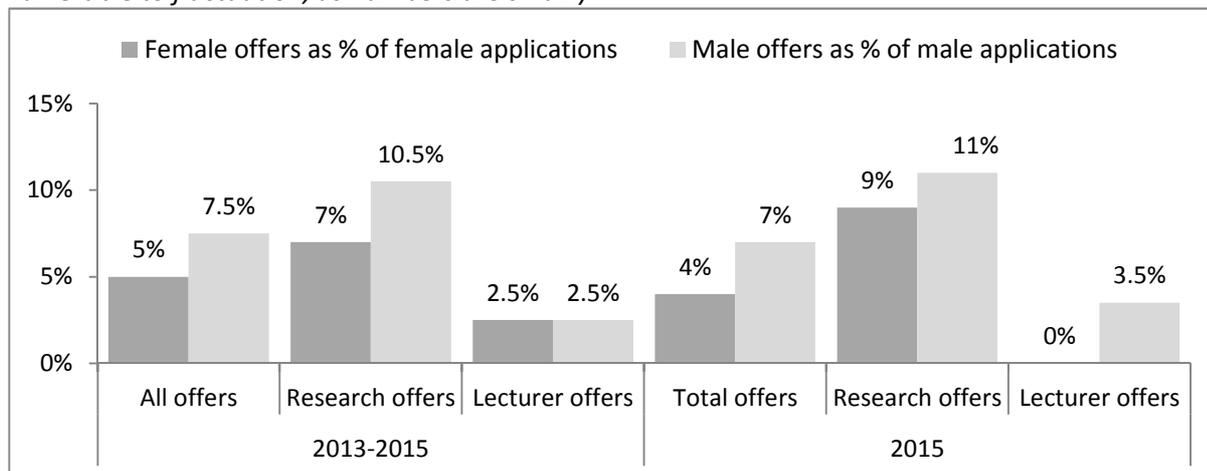


Figure 11d: Shortlisted candidates by grade as % of applications within each gender

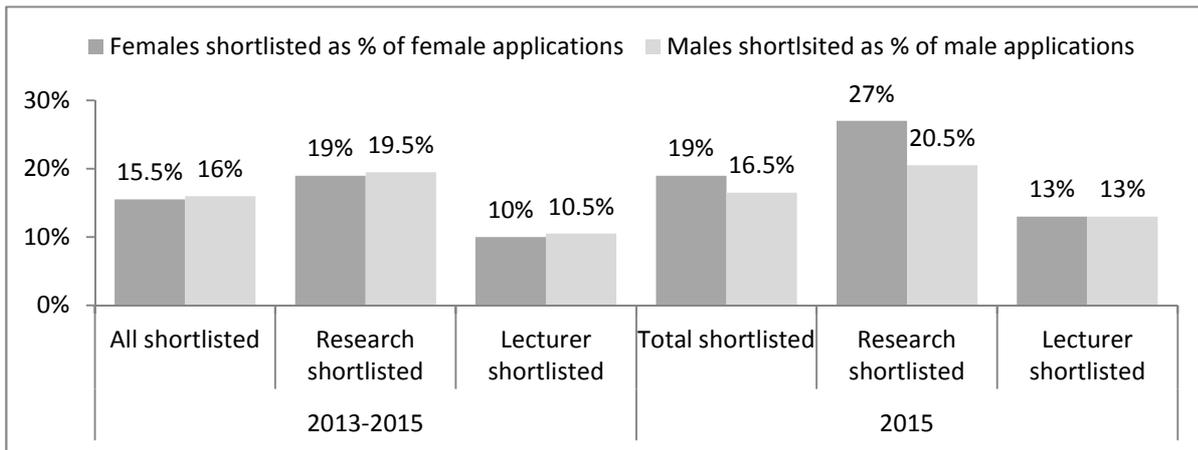
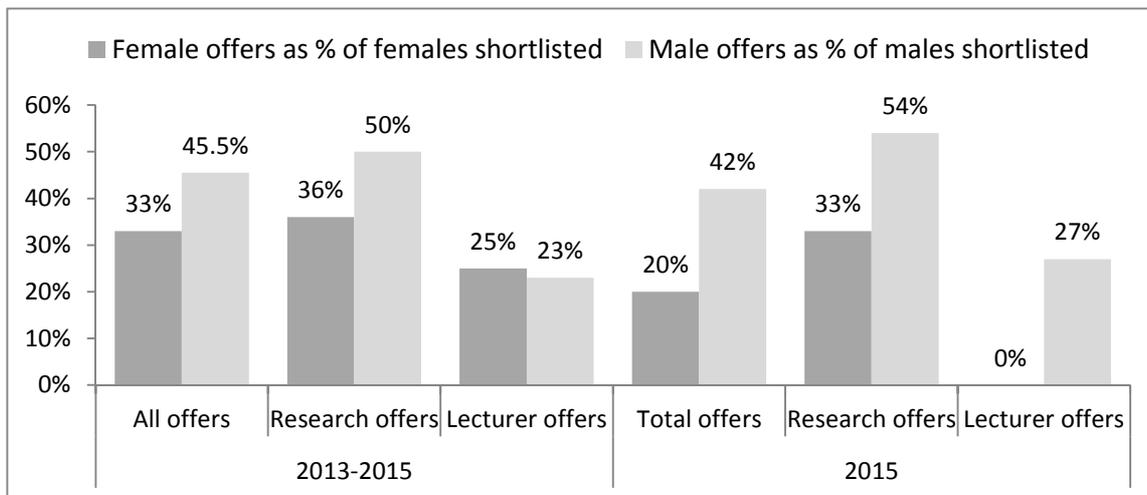


Figure 11e: Offers by grade as % of shortlisted candidates within each gender

(NB: Percentages in female and lecturer cases (either gender) are barely indicative of tendencies, being vulnerable to fluctuation as numbers are small.)



[Please proceed to next page]

Table 11a: Applications, shortlisting, offers & appointments by grade, gender & year

The unnamed appointments result from offers to shortlisted applicants.

CAUTION: A year's appointment numbers cannot reliably be compared to the year's offers: a year of appointment is when the person started, which may follow the year of the offer.

Named appointments arise separately, from grant proposals naming research staff.

			Grade 6-8 Research Associate or Fellow	Lecturer	Total
2013	Applied	Female	54		54
		Male	167		167
	Shortlisted	Female	10		10
		Male	35		35
	Offered	Female	5		5
		Male	17		17
	Appointment started (non-Named)	Female	5	0	5
		Male	12	1	13
Named appointments	Female	0	N/A	0	
	Male	5	N/A	5	
2014					
2014	Applied	Female	57	48	105
		Male	169	149	318
	Shortlisted	Female	9	4	13
		Male	30	12	42
	Offered	Female	2	2	4
		Male	18	2	20
	Appointment started (non-Named)	Female	2	0	2
		Male	10	0	10
Named appointments	Female	1	N/A	1	
	Male	3	N/A	3	
2015					
2015	Applied	Female	22	31	53
		Male	127	167	294
	Shortlisted	Female	6	4	10
		Male	26	22	48
	Offered	Female	2	0	2
		Male	14	6	20
Appointment	Female	0	1	1	

	started (non-Named)	Male	11	3	14
	Named appointments	Female	2	N/A	2
		Male	2	N/A	2

Table 11b: Appointments made, by grade & gender, for whole period (2013–15)					
			Research Associate or Fellow	Lecturer	Total
2013 to 2015	Appointment started (non-Named)	Female	7	1	8
		Male	33	4	37
		M&F	40	5	45
	Named appointments	Female	3	N/A	3
		Male	10	N/A	10
		M&F	13	N/A	13
	All appointments	Female	10	1	11
		Male	43	4	47
		M&F	53	5	58

The female fraction of applicants has been low: between a fifth and a quarter. Of (non-named) appointments started over the three years, 18% (8/45) were female: 7/40 research staff and 1/5 lecturers. This female percentage is hardly a cause for celebration but is at least bigger than our current 11% female staff percentage, giving us something to build upon for the future.

We now analyse the shortlisting and offering patterns to discern where improvements in processes are most crucial. By Figure 11a, in 2013 the female fraction of both shortlisted and offered candidates was close to that of applicants. However, in 2014 and 2015 there was a drop between application and shortlisting on the one hand and offering on the other. Figures 11d,e illuminate what is going on and show that:

- ***Female applicants are as likely to be shortlisted as male ones*** (in some instances more likely)
- ***But female applicants are less likely than men to succeed at interview (i.e., be offered the post once shortlisted)***, most obviously at researcher level.

We are disturbed by the second bullet, and relevant actions are outlined in part b(i) below.

As for named appointments:- The female percentage was 23% (3/13), as opposed to the 17.5% (7/40) for non-named researcher appointments. While 23% is still undesirably low, and lacking robustness because based on small numbers (e.g., 2/13 would only have been 15.5%), we feel it signals a commitment to recognising, retaining and nurturing female talent. It provisionally suggests we further exploit naming as a way of appointing more research staff, looking for more naming opportunities and seeking to increase the female representation (see a Key Action in part b(i)).

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

Figure 12: Number of promotions applications and appointments by gender (2012-15)

As promotion involves small numbers of staff, for this graph we have combined the 3 years of data and not used percentages.



		2012/13		2013/14		2014/15	
		Applied	Appointed	Applied	Appointed	Applied	Appointed
Senior Lecturer	Female	0	0	1	1	0	0
	Male	2	2	1	0	4	3
Reader	Female	0	0	0	0	0	0
	Male	2	0	2	2	2	2
Professor	Female	0	0	-	-	-	-
	Male	1	1	-	-	-	-
Gender total	Female	0	0	1	1	0	0
	Male	5	3	3	2	6	5
Total		5	3	4	3	6	5

Only one female academic applied for promotion in the three years, from Lecturer to Senior Lecturer in 2013/14, and she was successful. That there was only one promotion reflects the low number of women at Lecturer level and above. Of the other female staff at those levels, one is a long-standing Professor, one is still a probationer, and the remaining one is also still at a relatively early stage. (Previous panel feedback wondered why we did not have more vacancies at senior levels, but in fact we do not have a concept of vacancies as regards promotion—the number of people already at a level has no effect on someone's being promoted to it.) Thus, our prime focus

needs to be on increasing our number of female Lecturers etc. via recruitment, thereby feeding into the promotion pipeline for the future.

The School actively encourages staff to apply for promotion in line with the UoB twice-yearly promotions cycle. In annual Performance Development Review meetings, HoS discusses promotion with eligible staff. Additionally, Staffing Committee proactively considers possible promotion candidates and messages all staff calling for expressions of interest, and Committee members also approach individuals direct. In particular, HoS approaches all female staff direct and discusses the potential for a promotion application.

A Staffing Committee member is assigned as a *promotion mentor* for any candidate on the latter's request.

Key Actions:

- Actions to increase the input to our pipeline of female promotion candidates:
see next subsection, b(i)—*Recruitment of Staff*.
- Actions to enhance staff development and to support staff considering promotion:
see b(ii)—*Support at Key Transition Points*, and Career Development & Support part a(i).

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

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

We need to increase our female staff numbers. Above we identified two main issues:

- Increasing the number of female applicants at all grades
- Improving the female rate of transition from shortlisting to appointment.

Increasing the number of female applicants

In advertisements, the School already makes clear our commitment to equal opportunities and inclusivity, and is clear that we take into consideration candidates' career breaks and varied types

of research experience. But we need to more effectively target female candidates, as well as actively demonstrating our commitment to Athena values.

Key Actions (in action plan section E):

- Academic staff to search more comprehensively and proactively for potential female candidates for our advertised posts, including when attending CS events.
- When considering whom to specify in a named appointment, more extensively consider possible female candidates; conversely, when we know of a promising female researcher elsewhere, consider building a grant proposal around her.
- When headhunters are employed in the future, require that they provide an acceptable plan for finding female candidates and a report on the gender balance of the candidates with whom they had significant dealings, and set them targets for the female proportion of candidates found.
- In career advice, and in mentoring, encourage our research staff to apply for our lectureship openings.
- Advertise all jobs with WISE, BSC women's group, etc.
- Use the Athena logo, an explicit expression of commitment to Athena values, and more extensive positive recruitment statements in our advertising (e.g., concerning support for career breaks).
- Commit resources to developing an Athena webpage in the School, demonstrating our commitment to Athena values and acting as a repository of information relevant to supporting staff progression, work-life balance and family-friendly practices. To be highlighted in recruitment activity and local staff induction.
- Ensure that our post advertising and Athena webpage also incorporate insights from the WISE *People Like Me* approach.
- Engage with HR at UoB to take advice about our recruitment strategies and practices.

There is a prestigious lecturing/research fellowship scheme operated by UoB called *Birmingham Fellows*. It involves reduced but increasing teaching for up to five years. The appointee becomes a Lecturer during the period and at its end is awarded a permanent lectureship, making the positions very attractive, offering long-term security from the outset. We see Birmingham Fellows as an opportunity to attract more female academics to the School, noting that one of the three Birmingham Fellows in the School is female.

Further Key Actions (in plan section E):

- Actively promote the *Birmingham Fellows* scheme to potential candidates we identify, e.g. in scouting or in assessing applicants for research positions.
- [Somewhat similarly] develop a “*proleptic*” *lectureship scheme* for applicants for prestigious (inter)national fellowships: i.e., when we learn of such applicants outside (or within) the School, and they agree to centre their fellowship at the School, then we offer them an open lectureship in the School to start at the end of the fellowship.

The latter action was inspired by a scheme at UCL’s CS department that has been instrumental in recruiting more women.

Improving the female shortlisting-to-appointment transition rate

In line with UoB policy, all staff on appointment panels must have undertaken UoB’s Diversity in the Workplace module and Recruitment & Selection training, which includes awareness of the impact of unconscious bias.

Panels for lecturer posts and above have an academic member from outside the School. We use this practice to help ensure that there is a female representative on the panel if a female School academic is not available, and to avoid our small number of female staff from being overloaded with administrative duties.

In order to improve the level of female appointments, we propose:

Key Actions (in action plan section E):

- Require each appointment panel for a research-staff position [not just lecturer positions and above] to include whenever possible (a) a female member of staff, drawing on existing research staff to spread the load, or if not possible then (b) a (male) member of the E&D Committee (= SAT).
- Provide a guidance sheet for each short-listing/interview panel, indicating issues to be aware of/pitfalls to avoid in ensuring gender equality.
- Arrange for UoB’s People and Organisational Development Unit to deliver stand-alone, CS-specific unconscious bias sessions to the School that allow staff to explore issues in depth. Also:

- Implement a process whereby, if no female applicants are selected for shortlisting, or from shortlist to appointment, the panel will be required to return to (at least) the top three female candidates and review and challenge their decision, using the above guidance sheet.

This last action aims at ensuring that decisions are a fair reflection of the candidates' abilities in comparison with the more successful male candidates, and not reflective of unconscious bias or related to issues that can have a greater impact on females, such as career breaks or part-time working.

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

There is a sector-wide gender-related issue in that the female percentage of CS research staff tends to exceed that of lecturers etc. (By HESA figures and our own analyses of CS departments, the percentages are approximately 22% and 18% in the Russell Group.) This may involve female-weighted attrition: more female than male researchers leaving CS entirely or moving into non-academic computing. As our small contribution on the sector-wide issue, we are supportive of female staff at all levels, supporting personal development activities that will enhance their academic study, networking and career development. For instance:- The School encourages female staff to take part in College/University-wide networking events. The School has funded female staff attendance at the Young Women in Discrete Mathematics workshop and Association for Computing Machinery (ACM)'s Women in Computing conferences. The School also encourages women to (successfully) apply for women-in-CS grants, such as Google's Anita Borg scholarships, Google EMEA Travel and Conference Grants for Female Computer Scientists, and ACM-W/Microsoft Research Scholarships for European Female Computer Scientists. We have supported a female lecturer to undertake the Aurora [female academic] Leadership Development Programme.

We have had till now no way of assessing which interventions have made the most difference. We hope to uncover this via staff focus groups and surveys (see Action Plan section F) over the coming three years. A recently emerging, promising development at UoB that we will support and track is CoEPS's PERCAT programme (*Postdoctoral & Early Researcher Career Development and Training*). This will provide courses, advice, access to funding opportunities, workshops, etc., with much that should be of particular help to female staff. A recent PERCAT event addressed work/life balance, resilience, and parental leave as well as promotions, etc. PERCAT plans to arrange School-level

introductions via postdoctoral representatives (incl. Lars Kunze on our SAT), and in these we will highlight special problems raised by female under-representation.

The School has a severe case of the above sectoral gender-balance disparity between researcher level and lecturer level (dropping from 15% female to 8.5%). Of course, this is not attrition [non-retention] *within* our School taken by itself as we do not normally expect our researchers to typically become lecturers in our own department in the first place. Rather, it is a serious problem about recruiting female lecturers from outside, and is addressed in part b(i) above.

The particular within-School attrition [non-retention] problem we have is the higher female than male tendency for our researchers to resign before contract end. This is partially addressed in the Turnover section, but the following actions will also help.

Key Actions concerning staff development & retention (action plan section F except as indicated)

- Actions for enhanced post-leave support [in plan section I; **see** Flexibility & Career Breaks part b(ii)].
- Introduce a childcare allowance for all research staff and lecturing staff (and PGRs) on conference trips to ensure that childcare issues do not prevent attendance. HoS to lead on negotiating special UoB funding for this allowance.
- More actively promote development programmes available at UoB, including now PERCAT, to support research skills, such as grant-writing and becoming a research team leader.
- Work with UoB's People and Organisational Development unit to develop and offer a regular School-specific programme of job-application and promotions workshops, developing CV and interview skills and 'assertiveness for maximum impact' courses, using and supplementing PERCAT as necessary.
- Expand the existing probationer mentoring and promotion mentoring for lecturing staff to a mentoring scheme for all research/lecturing staff at any stage. Staff members will be welcome to request a mentor with characteristics they judge developmentally helpful, e.g. a female mentor.
- Use staff PDR meetings and mentoring to (further) encourage all (and notably female) staff to attend UoB's courses on leadership development, and external courses such as the Leadership Foundation for Higher Education's Aurora initiative.
- Hold annual focus groups and surveys for staff to identify and monitor the key barriers to career progression and to gather information on which provisions have been helpful.

In the mentoring scheme, we will draw as necessary upon a UoB-wide scheme to ensure the School's own female staff are not overloaded by mentoring. We will also consider the possibility of mentors at other institutions, and funding at least one visit per year of each mentee to the mentor.

Section 4 contd-Career Development

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

(i) Promotion and career development – comment on the appraisal and career development process, and promotion criteria and whether these take into consideration responsibilities for teaching, research, administration, pastoral work and outreach work; is quality of work emphasised over quantity of work?

All academic staff have an annual PDR conducted by the HoS. They outline their activities and negotiate plans for coming years with the HoS. Given our low numbers of female staff, the HoS is particularly conscious of the need to discuss and support female academics' promotion plans. To help embed Athena and E&D more thoroughly into our School culture, in future staff will be asked as standard at their PDR about their contribution to promoting diversity in the School.

UoB's promotion criteria emphasise quality over quantity of outputs. We comply with the UoB promotions policy that candidates must not be treated less favourably because of maternity/adoption/shared parental leave, part-time or flexible working, and caring commitments; specifically, reduction of work-quantity expectations will be considered because of such matters, with quality expectations maintained. Consideration of administrative duties (including pastoral, outreach, Athena/E&D work, etc.) forms part of the UoB promotions process, and plays an important role in the School deliberations and the HoS supporting letter.

The key issue for the School is recruiting more female Lecturers so that we have a pipeline of female staff for promotion, hence the actions on recruiting, above. There are also promotion-relevant actions in the previous subsection concerning encouraging staff to attend courses on leadership development, CS-specific promotions workshops, and the expanded mentoring.

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

All new staff participate in a central UoB induction. This includes a video presented by the VC looking at E&D in action across the institution (including AthenaSWAN), details of University policies, such as flexible working and family leave, services such as the confidential Harassment Advice Network, and staff groups such as the Single Parents' Network. An overview of the many development courses offered by UoB's People and Organisational Development unit is also addressed at induction.

All new staff must complete online E&D training as part of their probationary period, which includes gender equality and information on Athena. At present, the total completion rate for the School is 92%.

New staff are also given a local School induction, which includes coverage of the School's special policies and practices as regards probation, promotion, sabbaticals, parental leave, informal flexible working, research support, etc. However, the information is not given in as systematic way as it might be, hence:

Key Action (in action plan section E) [repeated from above]:

- Commit resources to developing an Athena webpage in the School, demonstrating our commitment to Athena values and acting as a repository of information relevant to supporting staff progression, work-life balance and family-friendly practices. To be highlighted in recruitment activity and local staff induction.

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

Career development and support

In November 2015, the School created a *Connecting Women in CS* group (CWICS) for all female taught students. One purpose of the group is to allow female students to consult others, including for job/post-searching advice. The group is very new but has arranged an all-female mutual support meeting and an informational and discussion meeting for students of any gender

identification, and has participated in the organisation of a CoEPS Women in Technology day (see Outreach subsection, Organisation & Culture part b(v)). The group is run by (female) students but is overseen by the Head of Student Development & Support.

The School provides career support to UG, PGT and research students through dedicated careers fairs held in our building (three per semester) and a careers advisor who spends one day a week in the School. However, we have not systematically provided advice on academic careers as opposed to non-academic ones.

The School, through its staff and through the *Connecting Women in CS* group, actively encourages students to take part in groups and events connected to E&D, cf. such activity in the SAT list in section 2(a). The School has some student-support funds that students can tap into for travel involved, and CoEPS's new fund for travel to E&D events (see Section 5) is also available.

Each research student has a *Thesis Group* (TG)—the supervisor and two other staff. The student is invited to suggest appropriate staff, giving them the opportunity to specify a female staff member. The TG has progress meetings with the student every 6 months to provide advice and support. The process builds in monitoring of skills needs and development. Each research student is also allocated an existing research student as a mentor.

Research students are encouraged, including by their Research Groups, to give papers at conferences; and staff members' grants or the School's Research Committee grants generally fund the trips. In particular, the School encourages and financially supports female research students' attendance at conferences such as the Google *Women Techmakers* and ACM *WomEncourage*.

Personal tutors and pastoral support

Taught students can request changes of personal tutor, and we have always managed to comply with this when requested. Although gender-based requests have been rare, we are conscious that students may be reluctant to ask for a change, and a Key Action below includes a relevant provision.

The School's Welfare Team comprises at least three members of permanent lecturing staff. Although we have few female staff, we ensure that at least one member of the team is female. The Team has extensive experience of, for example, supporting students in taking maternity leave, supporting students by means of leaves of absence, and arranging bespoke part-time arrangements for PGT students (as we do not offer part-time taught degrees.) As appropriate, serious welfare cases are promptly referred to relevant counsellors, responsible authorities, etc.

As noted elsewhere, administrative duties such as supporting Athena and E&D work and welfare work by staff are fully recognised in PDR and promotions processes. But the activities are not

systematically run by female staff, for workload and other reasons (see section 4: Organisation & Culture part b(i)).

Key Actions (in action plan section G except as specified):

- Implement the mentoring scheme for pre-final-year UGs that is currently being devised by the HoS, using UGs in the next year up as the mentors. The scheme will actively invite special requests; so if, e.g., a female student asks for a female mentor, we will strive to assign one.
- Make the following better known to taught students: (a) requests for change of tutor, including for gender reasons, are seriously considered, and complied with when appropriate; (b) we definitely arrange female tutors for female students when they have serious gender-related welfare issues.
- Provide a regular stream of the School funding to the *Connecting Women in CS* group, and also seek University (e.g. College E&D fund, or the Alumni Fund) and external support.
- Give more advice to our taught students about undertaking PhD courses, or research Master's courses as a precursor. [In action plan section D]
- Ensure male supervisors of new female PGRs proactively to check whether they would like a female Thesis Group member. [NB: If the supervisor is female, she is *ipso facto* a female TG member.]
- Systematically remind supervisors about the PGR student/student mentoring scheme.
- Develop workshops for research students on developing skills for taking part in discussion sessions within conferences, particularly when in a minority. [Recommended by a student focus group.]
- Provide more, and CS-specialized, careers advice to research students and encouragement to apply for research/academic posts.
- Hold annual surveys and focus groups with PGR students to identify perceived barriers to career progression and identify appropriate actions.
- Introduce a childcare allowance for PGRs (and staff) on conference trips to ensure that childcare issues do not prevent attendance. HoS to take the lead in negotiating special UoB funding for this allowance. [Recommended by a student focus group.]

Section 4 contd — Organisation and Culture

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

Staff committee membership by gender 2015/16.			
<i>Excluding committee secretaries. Numbers are staff except as shown.</i>			
Committee	Females	Males	% female
School Committee (all academic, research, and support staff; five student representatives)	22 staff 2 students	74 staff 3 students	23% 40%
AthenaSWAN SAT	5 staff 7 students	6 staff 1 student	45% 88%
Head of School Advisory Group	2	6	25%
Management Group	1	6	14%
Staffing Committee	1	13	7%
Teaching Committee	2 staff 1 student	13 staff 2 students	13% 33%
Research Committee	2 staff 1 student	14 staff 0 students	13% 100%
Research Student Monitoring Group	1	13	7%
External Liaison Committee	1	5	17%
Quality Assurance Committee	2	11	15%
UG Board of Examiners	1	8	11%
MSc Board of Examiners	0	9	0%
Extenuating Circs Panel	0	3	0%
Appeals Panel	0	4	0%
AVERAGES (omitting School Committee)	1.4 staff 0.85 student 2.2 all	8.5 staff 0.46 student 9.0 all	14% 65% 20%

[Further committees are on next page]

Staff and student consultative committees by gender 2015/16			
Committee	Females	Males	% female
Undergraduate case: (2 vacancies)	0 staff 5 students	6 staff 11 students	0% 31%
Postgraduate Taught case: (2 vacancies)	0 staff 1 student	6 staff 2 students	0% 33%
Research student case:	0 staff 1 student	2 staff 6 students	0% 14%
AVERAGES	0 staff 2.3 students 2.3 all	4.7 staff 6.3 students 11.0 all	0% 27% 18%

Committee membership (other than for School Committee) arises from a combination of *ex officio* memberships (e.g. Heads of Education, Research and Staff Development being on the Management Group; Senior Welfare Tutor being on the Extenuating Circumstances and Appeals Panels), appointed by HoS or Management Group (e.g., some members of HoS Advisory Group and of examination boards), nomination by all academic staff and then selection by School Committee (e.g. four-to-eight members of Research Committee), and election by the lecturing staff, research staff or relevant student body (e.g.: non-professorial staff member of Staffing Committee; research-staff representative on various committees; student representatives on committees).

The majority of our committees (14 of 17) include women, but female *staff* are only on 11. It is difficult for all committees to include female academic staff when there are so few of the latter in the School, without creating committee-overload. When we have succeeded in recruiting more female academics, a priority will be to establish more diverse committees, though the Action below is a start.

NB: Examination boards always include the Senior Welfare Tutor, who will continue to be on the SAT/E&D committee, therefore ensuring E&D issues are represented. Also, from 2016/17 UoB is requiring boards to consider students by ID number only, greatly reducing bias possibilities. Moreover, when at a board that Tutor reports the severity of students' extenuating circumstances, he/she does so when at all possible without mentioning their nature, so board members are not thereby apprised of the student's gender.

Given the key importance of the Management Group and the three Staff/Student Consultative Committees, we start on the path of greater E&D issue representation *and* greater female representation on committees as follows:

Key Action (in action plan section H)

- On the Management Group and the three Staff/Student Consultative Committees, include the Chair of the SAT, and if the Chair is male then also a female member of it.

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

Figure 13: Academic and research staff by fixed-term/open contract

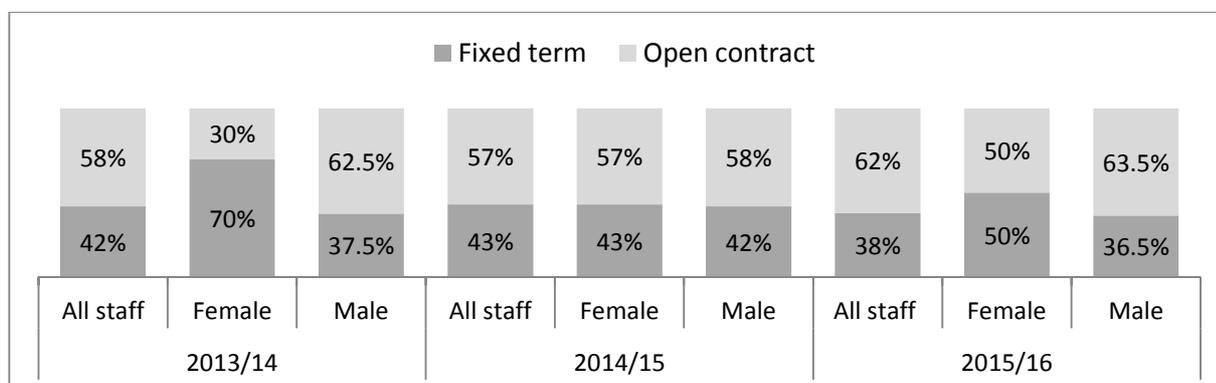


Table 13: Academic and research staff by contract type
* Researcher who was automatically moved to an open contract because of 4 years' service

		2013/14		2014/15		2015/16	
Grade	Gender	Fixed term	Open contract	Fixed term	Open contract	Fixed term	Open contract
Research Associate (6)	Female	1	0	1	0	-	-
	Male	1	0	4	0	-	-
Research Fellow (7)	Female	5	0	2	0	4	0
	Male	20	0	20	0	21	0
Research Fellow (8)	Female	0	1	-	-	-	-
	Male	2	0	3	1*	1	1*
Lecturer (8)	Female	1	1	0	2	0	2
	Male	0	15	1	10	2	10
Senior Lecturer (9)	Female	0	0	0	1	0	1
	Male	0	11	0	11	0	14
Reader (9)	Female	0	0	0	0	0	0
	Male	0	3	0	4	0	4
Professor (10)	Female	0	1	0	1	0	1
	Male	1	11	0	12	0	13

Total by gender	Female	7	3	3	4	4	4
	Male	24	40	28	38	24	42
	Total	31	43	31	42	28	46

Research staff posts are almost always fixed-term while almost all our lecturing posts (lecturer posts and above) are open-contract. The gender difference on fixed-term proportion in 2013/14 and 2015/16 (see Fig. 13) is a direct mathematical result of this fact combined with the fact that the female percentage of research staff is currently higher than that of lecturing staff. However, bearing in mind the observations about different male and female attitudes to job/person fit in WISE's *People Like Me* approach, we are concerned that some research-post applicants, especially (but not exclusively) when female, might not even apply for available open-contract positions when they are in fact appointable to them, because of a perceived mismatch with the criteria. We have no evidence of this potential effect actually arising, but to safeguard against it and its consequent gender-inequality, we propose:

Key Actions (in action plan section E)

- Advise applicants to our research posts about any available lectureship openings in the School, and as appropriate encourage them to apply for them (as well as for the research post if applicant desires).
- Ensure that our post descriptions incorporate the *People Like Me* approach.

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

(i) Representation on decision-making committees – comment on evidence of gender equality in the mechanism for selecting representatives. What evidence is there that women are encouraged to sit on a range of influential committees inside and outside the department? How is the issue of 'committee overload' addressed where there are small numbers of female staff? *[NB: My endorsement of the female academic staff is included in the last paragraph here. – Andrew Howes, Head of School.]*

As suggested by part a(i) above, the School strives to ensure female representation on all committees, but our low number of female staff makes this difficult.

As described in a(i), individuals are appointed, or nominated and then elected to the School committees. But where HoS has discretion on committee membership, the practice is to offer the

position first to (but not just impose it upon) an appropriate female member of staff. The same applies to appointments to officer positions in the School, such as Head of Research. In addition, female staff are actively encouraged to go for election to elected committee positions.

Rotation of staff in positions is the norm. Officerships and committee memberships for academic staff are generally for three years. The HoSship rotates among Professors every three or four years.

Overload dangers are mitigated by the collaborative and considerate nature of the administrative-role assignment process (see below). In particular, in that process the School is particularly concerned to avoid overloading female staff because of pastoral duties. A female staff member must always be on the Welfare Team, and she receives considerably less administrative workload in other respects.

In addition, the School believes that men as well as women should play leading roles in women-supporting activities, and that it should not be uncritically assumed that, for example, the Athena SWAN lead should be female. This stance helps embed gender equality issues widely in the School and at the same time frees women for a wider range of career-enhancing roles.

Encouragement of female staff to take important positions has been ample over many years, and the staff have also taken important initiatives contributing to the development and prowess of the School. Some examples of activity are as follows, concentrating on lecturers and above for the sake of brevity. Rowanne Fleck, probationary lecturer, brings to the School additional weight on policy development on E&D and work/life balance support, and indeed does Human-Computer Interaction research in the latter area. Christine Zarges, lecturer, has one of the three *Birmingham Fellowships* in the School. These are prestigious, being based on university-wide competition amongst many applicants from around the world. She has also been a leading force in the School on gender-equality matters. Christine and Rowanne have between them been on journal editorial boards, sat on programme committees of internationally prominent conferences, co-organised leading international conferences and workshops, been Vice-Chair of the IEEE Webinars Committee, and sat on an IEEE Task Force. The female senior lecturer, Ata Kaban, has been a star performer in terms of world-leading publications in various statistical modelling areas and in applications to cosmology, has sat on two journal editorial boards and numerous programme committees and was co-Chair of an IEEE Computational Intelligence Society's Task Force. The School's female professor, Ela Claridge, has built up an internationally leading group on medical imaging, been our RAE lead or co-lead five times, has sat on College- and University-level staffing/promotions committees, organised a university-wide collaborative research network, co-founded and co-steers a Doctoral Training Centre in Physical Sciences for Health, chaired and later vice-chaired the School's Research Committee for many years, and has consistently been popular as an elected member of School committees. Ela has long been a strong formative force in the School, both in research leadership and in important cultural developments such as developing our liberal sabbatical scheme, which strongly emphasizes being as supportive as possible.

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

The School has long chosen to assign teaching and administrative tasks in an individual-sensitive context-sensitive, and collaborative way. It is largely reasoning-based rather than points-based. Allocation of roles and tasks is managed by the Management Group (MG). Each year staff are asked to submit their preferences on teaching and administration for the next year, and their reasons for them, to MG. Allowances are made for circumstances such as prior heavy load and maternity. Provisional assignments are broadcast, and staff can then make objections, with MG making appropriate adjustments.

MG is especially concerned to avoid overloading probationary staff with onerous administrative duties. At the same time, the School seeks to ensure that staff are involved at appropriate stages in administrative work that will help them towards future promotion bids. For example, it can be valuable for a probationer to be involved in E&D activity or the Teaching or Research Committees.

Activities such as Athena/E&D, outreach, welfare, other student support, and admissions work are all highly valued and saliently considered in PDR and promotions. To strengthen the E&D aspect of this, we have:

Key Action (in action plan section H):

- Being the School’s E&D and/or Athena Lead is to be formally recognised as, and actively promoted by HoS as, commensurate in load to, for example, playing a leading role in REF preparation.

This Action was inspired by good practice observed at other universities.

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

All seminars and committee meetings are now scheduled between 10:00am and 4:00pm. This restriction started in autumn 2015 as part of the AthenaSWAN process. While that period can be thought of as core hours (meeting-wise), staff do not have to be on site: as discussed below, staff can work at home within core hours if not needed at meetings, lectures, open-door office hours (standardly one hour/week), etc.

It would be impossible for us to confine lecturing to that period. But lectures are timetabled collaboratively and months in advance of an academic year, with staff able to ask for special timings or changes to proposed timings (cf. the provision for Christine Zarges in section 2a).

The School has a weekly lunchtime “cookie break” for staff and research students, which is a great opportunity for staff to network and get to know their colleagues. Some social events organised by the School such as a Christmas celebration and a PGT welcome event tend to extend beyond or occur outside core hours, although there is always lengthy advance notice. Hence:

Key Action (in action plan section H):

- Ensure that School-organised socials fall within core hours.

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

The School strives for a collegial atmosphere, and HoS in particular will continue our tradition of promoting such collegiality. Informal student/staff collegiality is underpinned by formal mechanisms, for instance: strong (gender-balanced) student representation on many committees; weekly first year tutorial-group meetings; and our PhD Thesis Groups. At Applicant Visitor Days, HoS makes a speech that seeks to convey the welcoming and supportive nature of the School.

Our student focus groups report that the School socials - such as cheese and wine events - are valued, and that there are many valuable events promoting STEM subjects (e.g. "IT is not just for the boys!" by TargetJOBS) that are well promoted to students by staff. Other focus-group feedback is that the School’s female UGs feel that our culture and atmosphere dispels the media portrayal of computer scientists as males who are “in the dark and hiding” (in one focus-group student’s words). As regards our physical facilities, we have dedicated baby-feeding/changing facilities and gender-neutral toilet facilities.

The School has an active, longstanding student society (the *CS Society*), organising events, sports, etc. The gender profile of its officers is naturally variable because appointed by election, but three top members of the eleven-strong current executive committee are female.

Recently (November 2015) the School started a *Connecting Women in CS* group, run by female students (with staff oversight for sustainability) and enabling female students to support each other, but also with the mission of developing inclusive events for all students. Some activities are mentioned in Career Development a(iii).

A recent measure by SAT has been to create *Student Representatives on E&D*, one each for undergraduates, PGTs and research students (cf. SAT students in section 2a). Their main role is to discuss and pass on to SAT any general problems students perceive with our policies and procedures as regards E&D.

Our recent student focus groups report that female students feel the School is overall a supportive and friendly place to study. We are nonetheless very conscious that female students (particularly UG) are in a small minority in the School, and we have taken preventative and direct action to promote dignity and respectful behaviour. This is in part a response to the experiences of some female students of poor behaviour by a small minority of students, e.g., graphic conversations between male students, and female students occasionally feeling uncomfortable and 'stared at' [reported at focus groups]. This was noted in our previous Bronze application as instances in the School of a nationally emerging "lad culture" (reported on by the NUS:

<http://www.nus.org.uk/en/nus-calls-for-summit-on-lad-culture/>). In response to the previous panel feedback, we reaffirm here that we take these issues very seriously and have been proactive in addressing unacceptable behaviour. We have worked with the Student Diversity Adviser, the Student Guild's Women's Officer, the Guild's Welfare Officer and female School students to deliver activities at induction/enrolment around sexual harassment, etc. This includes what sexual harassment or otherwise unacceptable behaviour is, what to do in response to it, and disciplinary sanctions. This sits alongside induction/enrolment activities such as 'Did you know?' quizzes highlighting the role women have played in CS. These are run as 'fun' activities and are well-received by students.

In addition, we strongly subscribe to the *Not On* anti-sexual-harassment campaign at UoB inspired by, for example, the above NUS study. We promote *Not On* events to our students and staff. We were the first department at UoB to have department-specific versions of the *Not On* poster designed. We have also added an expected-behaviour section to our online Student Handbook, stating our commitment to providing an environment free of prejudice of any kind, and that strong disciplinary/legal action will be taken against anyone found to have engaged in bullying, harassment, abuse or discriminatory behaviour.

Key Actions (in action plan section H; many arising from student focus groups):

- Continue to engage the University's Equality and Diversity Adviser for Students to give a talk on harassment and unacceptable behaviour in our student induction weeks.
- Also, introduce strong, explicit attention to E&D and behavioural issues in the School's Senior Tutor's talks that form part of taught-student induction weeks and in research-student induction material.
- Include guidance on unacceptable behaviour into the module demonstrator training sessions.

- Induction lectures, student handbook and tutorials to ensure that it is clear who students should take specific problems to (e.g., a student representative, module lecturer, personal tutor, Welfare Team, Head of Student Development & Support, HoS).
 - Make the existence of the female Welfare Team member better advertised than it already is at present. [Partially achieved—material added to student Handbook.]
 - Add E&D-related questions to the module-evaluation forms and transition-review forms that are filled out by students, including questions about culture, behaviours and instructional material within the particular module in question.
 - Re-name our labs, meeting rooms and research-student offices after prominent computer scientists, half being female, with informational posters attached to doors. Personages are to be chosen in consultation with our existing taught students and research students, with students researching and drafting the posters.
 - Using an existing compulsory first-term lecture for new students (whether UG or PGT), devote time to introducing the history of gender issues in CS and discussing prominent computer scientists, half being female. Avoid onerous load on lecturers by having students do the background research and some presentation production.
 - At PDRs, HoS to ask staff about their contributions to promoting diversity in the School.
 - When events are hosted at or supported by the School, require organisers to provide detailed evidence of significant attempts to achieve gender balance at the event. Notably, it will be expected that there be strong female representation amongst invited presenters (if any). To increase the pool of female presenters, urge organisers to include early-career speakers, not just established senior people.
 - Relatedly, for our recently instituted Distinguished Seminar Speaker series, nominators of male speakers are to be asked also for suggestions for additional/alternative female candidates.
- (v) **Outreach activities** – comment on the level of participation by female and male staff in outreach activities with schools and colleges and other centres. Describe who the programmes are aimed at, and how this activity is formally recognised as part of the workload model and in appraisal and promotion processes.

Outreach to local schools is of great importance to the School as a means of challenging preconceptions about CS and positively encouraging girls to consider it. It also equips and encourages the CS schoolteachers we encounter. Staff involvement in outreach activities is recognised and strongly valued in our workload model, PDRs and promotion considerations. We have several main types of activity, run/overseen by an academic (male, currently) together with Helen Whitby (see section 2a), with participation from female and male School students:

- Regular visits to local schools, including all-girls ones, giving talks and conducting engaging activities such as several weekly code clubs, at a variety of school levels, mainly those where pupils are choosing GCSEs, A-Levels, etc.
- Visits for schoolboys/girls at such levels to the School for masterclasses, etc., typically with around 50/50 gender representation, and occurring about 15 times annually.
- Hosting the annual national *Computing at Schools* conference for CS schoolteachers (two of our Professors are founding members). The conferences include specific workshops on engaging female pupils in CS.
- Encouraging our students to consider careers in teaching CS with our Level 3/PGT module *Teaching CS in Schools*. Students work in local schools with the aim of engaging students – in particular girls – with CS. The module started in 2013/14 with 7 students (incl. 2 female) and currently has 18 (5 female).
- Students in our School took the initiative to organise a women-in-technology/science consciousness-raising event in 2015, open to external attendees including school pupils. There will be two further such events in 2016/17, with a plan to continue annually.

To expand and enrich this further, we have:

Key Actions (action plan section A)

- Hold one (or more) *Girls in CS* days at the School annually, involving programming workshops and information/discussion sessions, with five local schools and up to 100 schoolgirls involved per year by 2018/19. Incorporate insights and tools from the WISE *People Like Me* approach (see Section 3b(ii)).
- Hold (by 2018/19) three *Girls in CS* events annually at (other) local schools. Again, incorporate *People Like Me* insights.
- Sustain our code-club activities at local schools and our programme of topic-focused masterclasses at the School, ensuring continued female participation at around 50% and increasing it to that where necessary.
- Continue our strong, leading involvement with the *Computing at Schools* organisation. Whenever possible, hold the conference at Birmingham (as previously). When it is not at Birmingham, the School is to pay expenses for at least three staff members to attend. HoS personally to encourage staff to attend.
- Seek to increase the number of students in our *Teaching CS in Schools* module to at least 40, with at least a quarter being male and at least a quarter female, thereby sustaining the cross-gender buy-in.

- Institute a staff-monitored mechanism to ensure continued, sustainable organisation by students of student-led outreach events (such as the girls-in-technology days mentioned above).
- HoS to lead the negotiation of regular funding from UoB (e.g. from its Alumni Fund) to support our outreach activities.

The last Action would be a sequel to £2.5K received from the Alumni fund in 2014 for a Girls in CS day.

Section 4 Flexibility and Managing Career Breaks

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

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

Three staff (research) have taken maternity leave. Two returned to their post, full-time. The third moved to another institution at the end of her leave, for a combination of career-advancement and family reasons.

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

Two staff have taken paternity leave on the birth of a child. (UoB offers two weeks at full pay.) Our focus groups have identified that most new fathers have chosen to use informal flexible working instead of paternity leave, although aware of the latter.

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

The majority of flexible working in the School is informal (see b(i) below). Part-time working is the result of negotiation at the appointment stage or through a formal flexible working application. All formal flexible working requests have been granted.

Key Action about family-friendly and flexible working:

- Details of family leave and flexible working arrangements to feature on the School's forthcoming Athena website, and to be highlighted in local staff induction. [Part of Action E.5]

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

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

<i>Formal flexible working arrangements</i>			
	Gender	No.	Arrangement
Research (6) & (7)	Female	2	2x part-time
	Male	3	3x part-time
Lecturer (8)	Male	1	Part-time
Research Fellow (8)	Male	1	Part-time
Senior Lecturer (9)	Male	1	Part-time
Reader (9)	Male	1	Part-time
Professor	Male	2	2x part-time
Total		11	

The School encourages staff to work flexibly as a way of managing their work-life balance. In particular, staff often work some periods at home and thereby, for instance, accommodate the school run, living at or having a partner at a distance, or deal with domestic problems with minimal work interruption. As academic roles allow for a significant amount of flexibility as to when work is undertaken (no contractual hours), we receive few formal applications to work flexibly.

UoB has a Flexible Working Policy which is promoted to staff at central induction. As informal flexible working is encouraged, few staff have needed formal part-time working arrangements (three in 2015/16, all male).

Figure 14a: The School's academic and research staff by part-time/full-time working

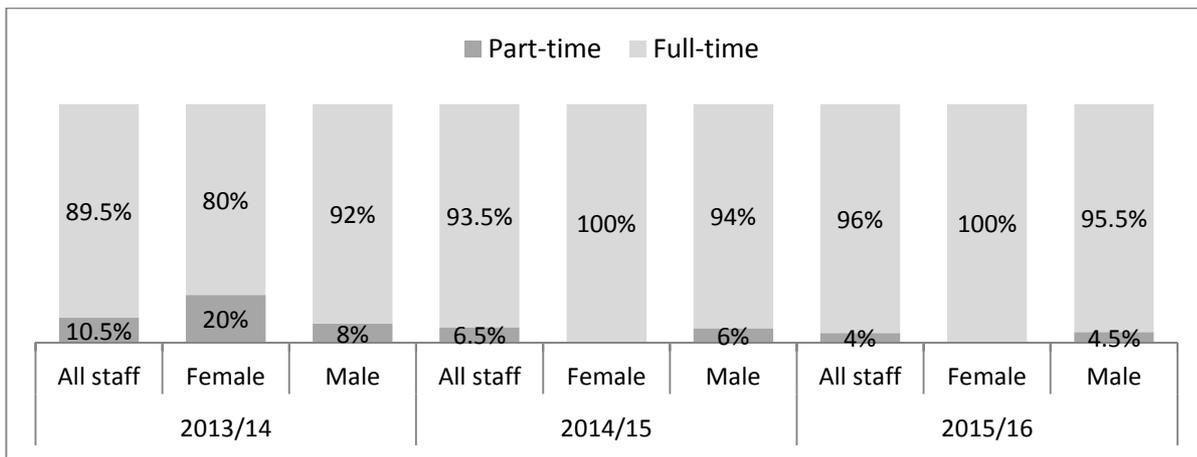


Figure 14b: 2015/16 part-time/full time working by grade

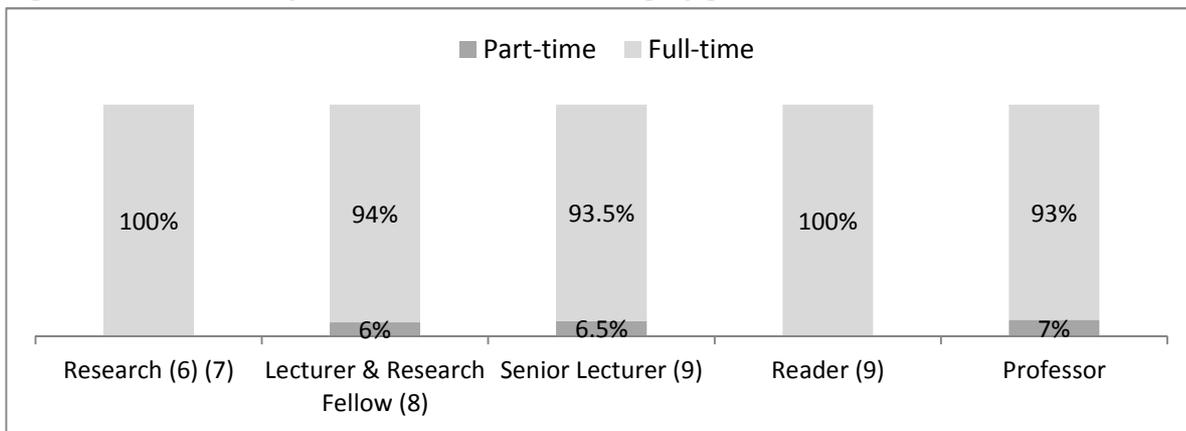


Table 14: The School's academic and research staff by part-time/full-time working

		2013/14		2014/15		2015/16	
		Part time	Full time	Part time	Full time	Part time	Full time
Research Associate (6)	Female	1	-	-	1	-	-
	Male	-	1	2	2	-	-
Research Fellow (7)	Female	1	4	-	2	-	4
	Male	1	19	-	20	-	21
Lecturer (8)	Female	-	2	-	2	-	2
	Male	1	14	-	11	-	12
Research Fellow (8)	Female	-	1	-	-	-	-
	Male	-	2	-	4	1	1
Senior Lecturer (9)	Female	-	-	-	1	-	1
	Male	-	11	1	10	1	13

Reader (9)	Female	-	-	-	-	-	-
	Male	1	2	-	4	-	4
Professor	Female	-	1	-	1	-	1
	Male	2	10	1	11	1	12
Total by gender	Female	2	8	-	7	-	8
	Male	5	59	4	62	3	63
	Total	7	67	4	69	3	71

Key Action on family-friendly and flexible working [repeated from above]:

- Details of family leave and flexible working arrangements to feature on the School's forthcoming Athena website, and to be highlighted in local staff induction. [Part of Action E.5]

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

UoB provides that staff employed on three-legged contracts (teaching, research and administration) can step back from teaching or administration for the first term on return from maternity, adoption or shared parental leave. The School improves on this and since 2014/15 has offered as an alternative a full year with half-teaching load on return: the same reduction but spread over a year, thereby providing greater choice and flexibility. Moreover, the provision is also available to staff on two-legged contracts.

Coverage of work during leave is as for sabbaticals. The tasks to be devolved to other staff are fed into the workload management process (see Organisation & Culture: part b(ii)). If they wish, a parent can maintain supervision of research students and other specialised activities. If not, and the activity cannot be scaled down or suspended, the School views it as *its* responsibility to find suitable cover. The School also supports the UoB keep-in-touch day scheme.

Key Actions (action plan section I):

- Extend post-break teaching reduction, including as enhanced already by the School, to apply to a wider range of lengthy leaves, such as for sickness and dependant-care, not just maternity, etc.

- Develop a ***Post-Break Award*** for returners from lengthy leaves of such types. Possibilities to be discussed include a sum added to the staff member’s “piggy-bank” account, partial support of a research assistant, or a limited matching sum to aid deployment of other resources the staff member may obtain.

The latter action was inspired by good, effective practice at UCL’s CS department and elsewhere.

Word count: 4958

5. Any other comments: maximum 500 words

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

On the Previous Panel Feedback

We feel we have addressed all the previous panel feedback. To summarise the primary matters:-

- *Actions needed to be SMARTer, with numerical targets.*

We have paid great attention to making Actions fully SMART. We have included numerical targets as appropriate.

In fact, we have aimed for “SMARTEST” – please see the Action Plan.

- *Promotions procedure needed to be addressed, as there may be issues with bias.*

This appears to relate to (a) our having had no female promotions, but some male ones, and/or (b) the feedback question about “why there [had] been so few vacancies at reader/[senior-]lecturer level.” As we explain above, the School has no notion of such vacancies as regards promotion; and we have now had a female promotion. The only female staff member at a suitable stage successfully applied.

We have proposed stronger measures against unconscious bias (Actions E.10—13).

The above vacancies question may have concerned external recruitment, not promotion. UoB awarded us few budget lines for new senior positions.

- *More Actions around “lad” culture and degree attainment were needed.*

We have described our existing activities and new proposed Actions to address the “lad culture” (within plan section H).

The attainment disparity disappeared after 2013 but we will continue monitoring.

- *We needed to set up a women’s network.*

We have set up the *Connecting Women in CS* student group, though not one for staff. An Action (section H) explores the latter during the coming period.

Some more detailed feedback, stating things the panel would have liked to see:

- *Further proactive actions that go beyond data gathering and monitoring, and prioritisation of them.*

Proactive, non-gathering/monitoring actions are now the great majority.

- *More information on the involvement of the HoS with Athena SWAN.*

We are now more explicit about particular roles of the HoS. Also, the HoS from 1 May 2016 is a past E&D officer with a longstanding commitment to gender equality.

- *More buy-in from the wider School evidenced.*

The much larger size of the new SAT is one indication.

SAT will instigate activity by many other committees (section 2c). This will embed and prioritize E&D across the School.

- *More detail on succession planning.*

Please see the subsections on committees.

- *More information about the recruitment strategy and cycle, e.g. the proportion of candidates being shortlisted, to reveal where the barriers exist.*

We provide new, revealing analysis in 4: Key Transitions a(i), and include more Actions concerning staff recruitment (plan section E).

- *Interview panels including women.*

We are optimistic that measures in Key Transitions b(i) will ensure that panels usually include a woman, and otherwise at least a SAT member.

- *Broadening of the search criteria for finding suitable female candidates for posts.*

We now explain our broad criteria better, in Key Transitions b(i). Also, a new Action (section E) exploits the WISE *People Like Me* approach in staff recruiting.

Additional Developments

This March, CoEPS instituted a £5000 annual fund supporting travel to events with E&D agendas. This will help the School keep abreast of national E&D developments.

The School's teaching was acclaimed by a student focus group as providing *enduring*, fundamental knowledge of computing, proof against the rapid, continual developments in CS. We very much perceive this as our mission. The matter is especially important for people needing career breaks soon after university, notably new mothers. We will highlight the feature in marketing.

We believe also we can gain greater student diversity by further emphasizing the *human-centred* nature of much CS, for example human-computer interaction, artificial companions, programming team management, privacy, digital-economy inclusiveness, and ethical ramifications. This will be a

natural complement to WISE's *People Like Me* approach to combatting narrow perceptions of science.

Word count: 497
(not counting the italicized feedback points,
taking them as akin to Action references)

6. Action plan

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

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

See accompanying spreadsheet.

University of Birmingham, School of Computer Science Athena Action Plan (April 2016 - April 2019)

We have endeavoured to make our Actions not just SMART but SMARTEST, where the EST is defines as follows:

- E = Excellent: well-conceived and evidence-based
- S = Supplemental: adding value to the School, and not detracting from existing good qualities
- T = Trusted: understood by the School at large to be needed.

As explained in the main text, SAT will be the instigator and monitor of action implementation via systematized interaction with School officers and committees.

Hence, SAT or SAT members do not usually explicitly feature in the Person(s) Responsible column, though in many cases a person mentioned will in fact be on SAT.

NB: The "Heads" mentioned, e.g. of Admissions and of Marketing, and the Outreach Coordinator are academics, whereas the Admissions & Marketing Coordinator is a member of administrative staff.

Timing Terminology: Autumn 2016 (say) means the first term of the 2016/17 academic year, and Winter 2017 the second term of that year.

A. Outreach activities (Section 3 - Foundation Student Data and Section 4 - Outreach Activities)							
Key Issue	Action	Success criteria	Milestones	Start	End	Person(s) Responsible	
A.1	Perceptions of CS & increasing female UG applications	Work with Widening Participation colleagues to increase recruitment into the School via the foundation and <i>Access to Birmingham</i> (A2B) schemes, and especially to further develop the female- and CS-orientated aspects of their marketing and outreach activities.	Major progress towards having 12 students per year, with at least 4 female, in 2019/20 School intake (up from around five a year, one or none female). Foundation/A2B units' Marketing and outreach contains aspects specifically designed to attract women into CS.	Annual pro-rata increases toward the 2019/20 target. Discussions about marketing held in Autumn term 2016. Initial changes in place in time to affect 2017/18 foundation/A2B intake (hence 2018/19 School intake). New improvements effected annually.	2016	2019	HoS, Heads of Marketing and Admissions, and Admissions & Marketing Coordinator.
A.2	<i>ditto</i>	Hold one (or more) <i>Girls in CS</i> days at the School annually, involving programming workshops and information/discussion sessions, with five local schools and up to 100 schoolgirls involved per year by 2018/19. Incorporate insights and tools from the WISE <i>People Like Me</i> approach (see Section 3b(ii)).	100 girls visiting annually, spread over five local schools, by 2018/19. <i>People Like Me</i> approach used.	Annual pro-rata increases toward the 2018/19 target.	2016 / 17	2019	Outreach Coordinator

A.3	<i>ditto</i>	Hold (by 2018/19) three <i>Girls in CS</i> events annually at local schools (different from those in Action A.2). Again, incorporate <i>People Like Me</i> insights.	3 events at three different schools in 2018/19. Where possible and advisable, different schools visited each year. <i>People Like Me</i> approach used.	1 event in 2016/17, 2 in 2017/18.	2016 / 17	2019	Outreach Coordinator
A.4	<i>ditto</i>	Sustain our code-club activities at local schools and our programme of topic-focussed masterclasses at the School, ensuring continued female participation at around 50% and increasing to that where necessary.	At least the current level of 4 different weekly (in term time) code clubs per academic year. Around 50% female participation by 2018/19. At least the current frequency of masterclasses, provided that external funding (e.g. Royal Institution) is re-obtained.	Annual pro-rata increases toward the 2018/19 target for percentage of women at code clubs (overall). (Current overall percentage difficult to determine but considerably lower than 50%, and will be tracked.) Frequency of masterclasses and code-clubs maintained annually.	2016 / 17	2019	Outreach Coordinator
A.5	<i>ditto</i>	Continue strong involvement with the Computing at Schools organisation. Whenever possible, hold the conference at Birmingham, as up to now. When not at Birmingham, School to pay expenses for at least three staff members to attend. HoS personally to encourage staff to attend.	Annually: (1) 3 members of School staff attend conference. (2) Their attendance funded by School when necessary.(3) Each conference includes a workshop or other major event addressing girls-in-CS issues. Also: conference is at Birmingham in at least two of the three years.	Success criteria met from 2017 conference onwards.	2017	2019	Computing in Schools Coordinator and HoS
A.6	<i>ditto</i>	Seek to increase the number of students in our <i>Teaching CS in Schools</i> module, sustaining the large cross-gender buy-in. (Currently: 18 students, of which 5 female.)	Number is 40 in 2018/19, with at least a quarter being male and at least a quarter female. (Rationale: It does not make sense to strive for an equal gender balance in this module, esp. as it is unlikely we will have 50% of our UGs female. What is important is good buy-in from both male and female.)	Annually: Module delivered and evaluated positively by students. Student numbers increased pro-rata toward the target, with the gender proportion criterion sustained (was already achieved in 2015/16)..	2016 / 17	2018 / 19	Head of Education, and the module instructors.
A.7	<i>ditto</i>	Institute a staff-monitored mechanism to ensure continued, sustainable organisation by students of student-led outreach events (such as girls-in-technology/science days).	Mechanism in place and functioning properly.	Mechanism in place by end of 2016/17 academic year.	2016	2017	Head of Student Development and Support
A.8	<i>ditto</i>	HoS to lead the negotiation of regular funding from UoB (e.g. its Alumni Fund) to support our outreach activities.	Aspiration: at least as much funding achieved as needed to support excellent conduct of Actions A.2 to A.7.	Negotiations started in Autumn 2016. An initial level of funding obtained for 2017, increasing each year afterwards..	2016	2019	HoS helped by others above in this column.

B. UG Student Recruitment (Section 3 - UG Student Data)

Key issue	Action	Success criteria	Milestones	Start	End	Person Responsible
Perceptions of <i>The Actions in section A above</i> . CS and increasing female UG applications		above	above	above	above	above

B.1	<i>ditto</i>	Review all marketing/open-day materials, online and printed, to challenge perception of CS as a 'narrow' subject, and emphasizing the breadth, diversity, flexibility and student-initiative opportunities of a degree in our School especially. Include more quotations from female students about what makes CS, and the School in particular, so interesting and diverse.	Positive feedback from applicants and visitors.	Initial changes introduced by end of Autumn 2016. Annually reviewed and enhanced.	2016	2019	Heads of Marketing and Admissions, and Admissions & Marketing Coordinator
B.2	<i>ditto</i>	Embed the <i>WISE People Like Me</i> characteristic-based approach in our marketing materials and events to help them be equally attractive to both male and female applicants.	Positive feedback from applicants and visitors.	Initial changes introduced by end of Autumn 2016. Annually reviewed and enhanced.	2016	2019	Heads of Marketing and Admissions, & Admissions and Marketing Coordinator
B.3	<i>ditto</i>	Achieve 50/50 gender representation in student/staff/alumna/alumnus case studies, stories and images on our webpages and other marketing materials	Positive feedback from applicants and visitors. We achieve the 50/50 representation.	Initial changes introduced by summer 2017. Annually reviewed and enhanced.	2017	2019	Heads of Marketing and Admissions, and Admissions & Marketing Coordinator
B.4	<i>ditto</i>	Develop a set of posters for permanent display in the School featuring prominent Computer Scientists, with 50% being female.	Positive feedback from applicants and visitors. We achieve the 50/50 representation.	Initial changes introduced by summer 2017. Annually reviewed and enhanced.	2017	2019	Heads of Marketing and Admissions, and Admissions & Marketing Coordinator
B.5	<i>ditto</i>	Ensure that as standard at open days and applicant visiting days: i) talks give prominence to women in CS in both their content and who delivers them; ii) female staff and students are visibly present and approachable by attendees [already achieved]; iii) the student <i>Connecting Women in Computer Science</i> group has a stand.	Positive feedback from applicants and visitors.	Initial changes including CWICS stand introduced by Autumn 2016. Annually reviewed and enhanced. NB:The female presence in part (ii) of the Action has been our practice for at least three years.	2017	2019	Heads of Marketing and Admissions, and Admissions & Marketing Coordinator
B.6	<i>ditto</i>	Modify our Applicant Visitor-Day feedback forms to assess the impact of B.1-B.5 on perceptions of CS and of the School [already in process].	Form modified as appropriate, with new questions probing the different aspects of B.1-5.	Some extra questions already included. To be reviewed annually.	2016	2019	Admissions & Marketing Coordinator
B.7	<i>ditto</i>	Hold an annual focus group with starting female students to identify what attracted them into CS and our School in particular, and build insights obtained into our recruitment activities	Pull-factors are identified and built into B.1-B.6	Focus groups (UG, PGT and PGR) held around middle of Autumn term each year.	2016	2019	SAT
		<i>Combined conservative aspiration for effect of actions for UG recruitment.</i>	<i>Increase in the proportion of female UGs to at least 19% for 2019/20, with overall student numbers at least maintained.</i>	Justification: We have 14.5% in 2015/16, with no recently observed annual increase - see Table 2. We assume 14.5% in 2016/17, and approx 1.5% annual increase for the following three years.			

C. PGT Recruitment (Section 3 - PGT Student Data)							
Key issue	Action	Success criteria	Milestones	Start	End	Person Responsible	
	Perceptions of CS and increasing female PGT applications	<i>Actions A.7 and B.1 - B.7 above, These are the main measures for increasing PGT female intake.</i>	<i>above</i>	<i>above</i>	<i>above</i>	<i>above</i>	<i>above</i>
C.1	<i>ditto</i>	Promote our specialised Master's courses to our final-year UGs, our conversion PGTs, and our current Year in CS students, and remind the previous year's Year in CS students about them.	Promotion mechanisms working smoothly.	Initial mechanisms developed over 2016/17. Sustained in succeeding years.	2016 / 17	2019	Heads of Education and Admissions.
C.2	<i>ditto</i>	Explore measures to increase our Year in CS population and its female representation	Discussions held in relevant School bodies and new measures introduced.	Discussions held and decisions reached in 2016/17. Some new measures introduced in time to affect 2018/19 intake.	2016 / 17	2019	Head of Education, Year in CS Coordinator.
		<i>Combined conservative aspiration for effect of actions for PGT recruitment.</i>	<i>Increase in the proportion of female PGTs to at least 32% for 2019/20, with overall student numbers at least maintained.</i>	Justification: We have 29% in 2015/16, with no recently observed annual increase - see Table 2. We assume the same 29% in 2016/17, and approx 1% annual increase for the following three years.			
D. PGR recruitment (Section 3 - PGR Student Data)							
Key issue	Action	Success criteria	Milestones	Start	End	Person Responsible	
	Increasing female PGR applications	<i>Actions B.1 - B.4 and B.7 above. These are important measures for increasing female PGR intake, along with D.1-4.</i>	<i>above</i>	<i>above</i>	<i>above</i>	<i>above</i>	<i>above</i>
D.1	Increasing female PGR applications	Advertise our existing part-time option for PhD students more prominently in our marketing materials.	Awareness evident in applicant surveys.	Achieved by end of academic year 2016/17. Updated as necessary annually thereafter.	2016 / 17	2019	Admissions & Marketing Coordinator.
D.2	<i>ditto</i>	Give more advice to our taught students about undertaking a PhD, or a research Master's programme as a precursor.	A gender-balanced increase in applications for PhD places from our own students.	Scheme to be in place by end of Spring term 2017. Student opinions about the advice are to be sought in annual student and staff surveys / focus groups.	2016 / 17	2019	Head of Student Development and Support

D.3	Increasing female PGR offer rates	Ensure that evaluation of candidates is done by a gender-balanced group of staff, calling on research staff for this if necessary.	Achieved as stated.	Mechanism is standard practice by summer 2017.	2017	2019	Director of Postgraduate Admissions
D.4	ditto	Investigate lower female PGR offer rates to identify if there is any bias, and, if so, identify actions to address it.	Issues identified and actions taken with the aim of addressing any bias uncovered.	Report results of investigation at meetings of Research Student Monitoring Group (RSMG) in each Autumn and Winter term, starting in Autumn 2017.	2017	2019	Director of Postgraduate Admissions
		<i>Combined ambitious aspiration for effect of actions for PGR recruitment</i>	<i>Increase in the proportion of female PGRs to at least 31% for 2019/20, with overall student numbers at least maintained.</i>	Justification: We have 26% in 2015/16, but are hoping to at least recoup the above-RG-average 30% position that held in the previous two years, and make some improvement over that.			

E. Staff Recruitment (Section 3 - Staff Data and Section 4 - application and recruitment subsections of Key Career Transition Points)

	Key issue	Action	Success criteria	Milestones	Start	End	Person Responsible
	Increasing female staff application rates at all grades	<i>Action B.3 concerning case studies in marketing materials.</i>	<i>above</i>	<i>above</i>	<i>above</i>	<i>above</i>	<i>above</i>
E.1	ditto	Academic staff to search more comprehensively and proactively for potential female candidates for our advertised posts, including when attending CS events.	Annual report to Staffing Committee from staff at large on diversity of applicants approached, demonstrating increased scouting and diversity.	N/A - action is continual and bound to periods when positions are becoming available.	2016	2019	Head of Staffing
E.2	ditto	Encourage our researcher staff to apply for our lectureship openings via career advice and mentoring arrangements.	Research staff report that encouragement received, in surveys and focus groups.	N/A - action is continual and bound to periods when positions are becoming available.	2016	2019	Head of Staffing
E.3	ditto	Advertise all vacancies with WISE, BCS's womens group, etc.	Achieved as stated.	Achieved in job advertisements from Autumn 2016 onwards.	2016	2019	Operations Manager
E.4	ditto	Use the Athena logo, commitment to Athena values and positive recruitment statements in our advertising (i.e. we actively encourage applications from female candidates, candidates who have taken career breaks, we promote flexible working, etc).	All job adverts include positive messages	Already instituted apart from logo. Wording to be kept under review annually.	2016	2019	Operations Manager, SAT

E.5	<i>ditto</i>	Commit resources to developing an Athena webpage in the School, demonstrating our commitment to Athena's values and acting as a repository of information relevant to supporting staff progression, work-life balance and family-friendly practices. To be highlighted in recruitment activity and local staff induction.	Applicant feedback survey indicates that all applicants are aware of the School's family-friendly working environment. New and current staff report awareness of and satisfaction with School policies via annual UoB staff satisfaction survey	Initial version: Autumn 2016. Applicant and visitor surveys in Winter 2017 show approval. Updates in first month of each academic year thereafter.	2016	2019	SAT Chair, HoS
E.6	<i>ditto</i>	Ensure that our post descriptions and Athena webpage also incorporate insights from the WISE <i>People Like Me</i> approach.	Achieved as stated.	Initial version: Autumn 2016. Applicant and visitor surveys in Winter 2017 show approval. Updates in first month of each academic year thereafter.	2016	2019	SAT
E.7	<i>ditto</i>	Actively promote the <i>Birmingham Fellows</i> scheme (with its transition an to an open Lectureship) to potential candidates we identify, e.g. in scouting or in assessing applicants for research positions.	Annual report to Staffing Committee from staff at large on how much they have promoted the scheme, showing a high level of promotion, incl. to female candidates.	N/A - action is continual and bound to periods when positions are becoming available.	2016	2019	Head of Staffing
E.8	<i>ditto</i>	Develop a <i>proleptic lectureship scheme</i> for applicants for prestigious (inter)national fellowships: when we learn of such applicants outside (or within) the School, and they agree to centre their fellowship at the School, then we offer them an open lectureship in the School to start at the end of the fellowship.	Scheme developed in consultation with HR and senior university management. Evidence obtained of its being appropriately used.	Scheme discussed and framed within School, with HR input, in 2016/17. Negotiation with senior university management started by summer 2017. Scheme ready to be used by late 2017. Used as appropriate thereafter.	2016	2019	HoS, Head of Staffing
E.9	<i>ditto</i> , & improving gender equality on fixed vs. open posts	Advise applicants to our research posts about any available lectureship openings in the School, and as appropriate encourage them to apply for them (as well as for the research posts if applicant desires).	Achieved as stated.	The practice starts at first opportunity from summer 2016 onwards. The action is continual and bound to periods when positions are becoming available.	2016	2019	Operations Manager and SAT Chair to exhort academic staff assessing researcher applications
E.10	Increasing female staff offer rate	Arrange for UoB's People and Organisational Development (POD) Unit to deliver stand-alone, CS-specific unconscious bias sessions to the School that allow staff to explore issues in depth. HoS to mandate that all staff involved in recruitment and promotions decisions must attend these sessions.	All staff involved in recruitment and promotions panels have taken this training.	In place by academic year 2017/18, maintained thereafter	2017	2019	Operations Manager in consultation with POD; HoS
E.11	<i>ditto</i>	Require each appointment panel for a research-staff position [not just lecturer positions and above] to include whenever possible (a) a female member of staff, drawing on existing research staff to spread the load, or if not possible then (b) a (male) member of the E&D Committee (= SAT).	Appointment panels are as stated.	Scheme in place at beginning of the hiring process for each RA/RF position, starting in Autumn 2016. Monitored thereafter.	2016	2019	Operations Manager, Head of staffing
E.12	<i>ditto</i>	Provide a guidance sheet for each short-listing/interview panel, indicating issues to be aware of/pitfalls to avoid in ensuring gender equality.	Advice sheet used in all appointment panels.	Sheet developed in Autumn 2016, Usage started from Spring 2017. Sheet and usage monitored at selected Staffing Committee meetings, at least annually.	2016	2019	Head of Staffing, SAT Chair, Operations Manager

E.13	<i>ditto</i>	Implement a process whereby, if no female applicants are selected for shortlisting, or from shortlist to appointment, the panel will be required to return to (at least) the top 3 female candidates and review and challenge their decision, using the above guidance sheet.	Achieved as stated.	Beginning of the hiring process for each position, starting in Autumn 2016.	2016	2019	Head of Staffing, Operations Manager
E.13	Increasing female staff appointment rate (after offer or in naming)	<i>Action E.5 [will in part make the School more appealing to applicants to whom we have made an offer and to named staff]</i>	above	above	above	above	above
E.14	Increasing female staff appointment rate	When headhunters are employed in the future, require that they provide an acceptable plan for finding female candidates and a report on the gender balance of the candidates with whom they had significant dealings, and set them targets for the female proportion of candidates found.	Achieved as stated.	The practice starts at first opportunity from summer 2016 onwards. The action is continual and bound to periods when positions are becoming available.	2016	2019	Head of Staffing, Operations Manager
E.15	Increasing female staff <i>named</i> -appointment rate	When considering whom to specify in a named appointment, more extensively consider possible female candidates; conversely, when we know of a promising female researcher/academic elsewhere, consider building a grant proposal around her.	Achieved as stated.	The practice starts at first opportunity from summer 2016 onwards. The action is continual and bound to periods when positions are becoming available.	2016	2019	Head of Staffing and SAT Chair to exhort academic staff at large
E.16	Increasing female rate of staff appointment (any type)	Engage with HR at UoB to take advice about our recruitment strategies and practices.	Achieved as stated.	Starting in Spring 2017 (university is currently overhauling its recruitment procedures).	2017	2019	Head of Staffing, HoS
		<i>Combined conservative aspiration for effect of actions concerning staff recruitment.</i>	<i>Raised female proportion of new staff: minimum of 22% female, both for new research staff and for new lecturing staff, by 2018/19.</i>	Justification: New research staff over 2013-15 were 19% female (10 of 53) and new lecturers were 20% female (1 of 5) - see Table 11b. We aim for an approx 1% annual increase in the two years after 2016/17.			

F. Staff Development and Retention (Section 4 - Key Transitions on promotions and attrition, Career Development on promotion and induction, & Section 3(viii) - Turnover)

Key Issue	Action	Success criteria	Milestones	Start	End	Person Responsible
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F.1	Supporting female research staff development	More actively promote development programmes available at UoB, including now PERCAT (see main text), to support research skills, such as grant-writing and becoming a research team leader, and also external courses, Encourage female staff especially to take advantage of the opportunities such as the Leadership Foundation for Higher Education's Aurora initiative.	Positive feedback in student and staff surveys/focus groups and higher take-up by staff.	Regular extra encouragement to staff starts in Autumn 2016, via emails, PDR, School Committee meetings, etc.	2016	2019	Head of Staffing
F.2	<i>ditto</i> , & supporting promotion	Work with People and Organisational Development (POD) to develop a School-specific programme of promotions workshops, developing CV and interview skills and 'assertiveness for maximum impact' courses.	Workshops designed, started to be delivered, well attended and positively received.	Workshop programme designed with POD during 2016/17. Delivery starts in Autumn 2017, with at least one workshop per term. Programme cycles annually thereafter.	2016	2019	Head of Staffing
F.3	Supporting female staff development incl. promotion	Expand the existing probationer mentoring and promotion mentoring for lecturing staff to a mentoring scheme for all research/lecturing staff at any stage. Staff members will be welcome to request a mentor with characteristics they judge developmentally helpful, e.g. a female mentor. To avoid mentoring overload on female School staff, use mentors at UoB outside the School as appropriate, and, when appropriate and possible, mentors at other institutions, with the School paying for one visit per year to the mentor. Staff encouraged, as appropriate, via PDRs etc. to have a mentor. PDRs to explicitly check whether the staff member wishes to have a mentor or feels adequately mentored already (e.g., by supervisor).	Mentors with desired characteristics promptly assigned when requested by staff members. The stated PDR process is in place. Funds available for the annual trips in the beyond-UoB cases, if any.	Scheme starts in Autumn 2016. Continual thereafter.	2016	2019	Head of Staffing, HoS
F.4	Supporting female staff development	Introduce a childcare allowance for all research staff and lecturing staff (and PGRs) on conference trips [that meet the School's quality criteria] to ensure that childcare issues do not prevent attendance. HoS to lead on negotiating special UoB funding for this allowance.	Affordable allowance scheme designed. Allowances able to be provided to all who have a legitimate request. Special UoB funding secured.	Scheme designed in Autumn 2016. Starts by Autumn 2017. Negotiation with university on the funding started in Winter 2017. Funds available by Autumn 2017.	2016	2019	Head of Research, PhD Student Tutor, HoS
F.5	Improving staff retention	Monitor reasons for staff (especially researchers) resigning, e.g. by means of exit interviews, and take action on issues identified especially where differently affecting males and females.	Monitoring mechanisms in place, allowing identification of problems. Appropriate actions to address any problems are designed. Such actions commenced.	Monitoring starts in 2016/17, continual thereafter. Problems identified are considered in regular Staffing Committee meetings and/or SAT meetings.	2016	2019	Operations Manager, Head of Staffing
F.6	Supporting female staff development incl. promotion, and improving retention	Hold annual focus groups and surveys for staff to identify and monitor, amongst other things, the key barriers to career progression and to gather information on which supportive provisions in the School have been helpful. Surveys and focus groups to seek to determine gender-based factors.	Staff surveys and focus group meetings for various sectors of staff held per academic year.	Surveys and focus group programme designed in Autumn 2016. Scheme starts in Winter 2017. Annual cycle.	2016	2019	SAT

G. Student Development (Section 4 - Career Development subsection on support for female students)							
Key issue	Action	Success criteria	Milestones	Start	End	Person Responsible	
G.1	Further developing support, with positive measures for female students	Implement the mentoring scheme for pre-final-year UGs that is currently being devised by the HoS, using UGs in the next year up as the mentors. The scheme will actively invite special requests; so if, e.g., a female student asks for a female mentor, we will strive to assign one.	Achieved as stated. Student-operated but staff-overseen mechanism in place whereby mentors are promptly assigned, with (appropriate) special requests granted. Positive reception by students.	Starts in Autumn 2016/17, piloting with year 2 UG students. Rolled out to year 1 students in Autumn 2017.	2016	2019	Head of Student Development and Support, Senior Welfare Tutor.
G.2	<i>ditto</i>	Make the following better known to taught students: (a) requests for change of tutor, including for gender reasons, are seriously considered, and complied with when appropriate; (b) we definitely arrange female tutors for female students when they have serious gender-related welfare issues.	At least 95% level of student awareness as measured through annual student feedback form. Ideally, all eligible special requests are complied with, and in particular all female students with eligible reasons to have female mentors are given them. Scheme is positively received by students.	Notifications fully achieved by start of 2016/17 Autumn term. Success on awareness achieved in earliest student surveys / focus groups after that. Maintained annually thereafter.	2016	2019	Head of Student Development and Support, Senior Welfare Tutor.
G.3	<i>ditto</i>	Provide a regular stream of School funding to the <i>Connecting Women in CS</i> group, and also seek University (e.g. College E&D fund, or the Alumni Fund) and external support.	A minimum level (at least) of support provided through School's regular teaching-support budget. Also, if possible, special university funding or external support obtained.	School's own budgetary support to start in Autumn 2016. Maintained thereafter. UoB funding negotiated or external support applied for during 2016/17.	2016	2019	Head of Student Development and Support, HoS
G.4	<i>ditto</i>	(1) Male supervisors of new female research students proactively to check whether the student would like a female Thesis Group member. (NB: If the supervisor is female, she is <i>ipso facto</i> a female TG member.) (2) Systematically remind supervisors of the PGR student/student mentoring scheme.	100% awareness of Thesis group gender options amongst research students. Measured through survey feedback.	To effect in Summer 2016, maintain thereafter. (Students arrive at a variety of different times of year.)	2016	2019	PhD Student Tutor
G.5 (= F.4)	<i>ditto</i>	Introduce a childcare allowance for PGRs (and staff) on conference trips [that meet the School's quality criteria] to ensure that childcare issues do not prevent attendance. HoS to lead on negotiating special UoB funding for this allowance.	Affordable allowance scheme designed. Allowances able to be provided to all who have a legitimate request. Special UoB funding secured.	Scheme designed in Autumn 2016. Starts by Autumn 2017. Negotiation with university on the funding starts in Winter 2017. Funds available by Autumn 2017. External funding also sought in parallel.	2016	2019	Head of Research, PhD Student Tutor, HoS
G.6	<i>ditto</i>	Develop workshops for research students on developing skills for taking part in discussion sessions within conferences, particularly when in a minority.	One workshop held per annum. Well attended, positively received. Post-conference reports (via students' Thesis Groups) reveal that the workshops had a good effect.	First workshop to be held in Autumn 2017. Annual thereafter.	2017	2019	PhD Student Tutor, SAT

G.7	<i>ditto</i>	Provide more, and CS-specialized, careers advice to research students [e.g. with the help of special workshops designed with the UoB Personal and Organisation Development unit, POD] and encouragement to apply for research/academic posts.	Achieved as stated.	Provisions of advice (e.g. POD workshops) designed during 2016/17. starts in 2017/18. Annual cycle.	2016 / 2017	2019	PhD Student Tutor
G.8	<i>ditto</i>	Hold annual surveys and focus groups with PGR students to identify any perceived barriers to career progression (academic or in industry)	One survey and two focus group meetings per year.	Survey and focus group progammæ designed in 2016/17. Started n Winter 2017 or Autumn 2017 according to progress.	2016	2019	SAT, PhD Student Tutor

H. Organisation and Culture (Section 4 - Committees, Workload, Timing of Meetings, and Culture)

	Key issue	Action	Success criteria	Milestones	Start	End	Person Responsible
H.1	Increasing female presence on key	On the Management Group and the three Staff/Student Consultative Committees, include the Chair of the SAT, and if the Chair is male then also a female member of it.	Achieved as stated.	SAT Chair included in 2016/17. Extra, female, SAT member achieved if needed by 2017/18.	2016 / 17	2019	HoS, SAT Chair
H.2	Recognising E&D work in School workload model	Being the School's E&D and/or Athena Lead is to be formally recognised as, and actively promoted by HoS as, commensurate in load to, for example, playing a leading role in REF preparation.	Activity is recognised in the workload model and in PDR.	Effective immediately.	now	2019	HoS
H.3	Staff contribution to E&D	At PDRs, HoS to ask staff about their contributions to promoting diversity, especially on gender, in the School.	Evidence of staff participation in E&D and Athena agendas	Starts in 2016/17	2016 / 17	2019	HoS
H.4	<i>ditto</i>	When events are hosted at or supported by the School, require organisers to provide detailed evidence of significant attempts to achieve gender balance at the event. Notably, it will be expected that there be strong female representation amongst invited presenters (if any). To increase the pool of female presenters, urge organisers to include early-career speakers, not just established senior people.	Good gender balance achieved at events. For the Distinguished speaker series, the expected suggestions are always provided.	Detailed version of policies devised during Autumn 2016. In effect from Winter 2017.	2016	2019	HoS, Head of Research
H.5	Facilitating inclusivity of School social life	Ensure that School-organised socials fall within core hours. (Committee meetings and research seminars already do so.)	Ideally, all such socials fall within core hours.	Effective immediately,	now	2019	any relevant staff

H.6	Creating a more female-encouraging and inclusive culture	Name our labs, meeting rooms and research-student offices after prominent computer scientists, half being female, with informatinoal posters attached to doors. Personages are to be chosen in consultation with our existing taught students and research students, with students researching and drafting the posters.	Achieved as stated, with positive reception by students and staff, and strong engagement by students in the poster design and background research.	Choices made in Autumn term 2016. At least some names and posters installed in Winter 2017. All relevant rooms named and postered by Autumn 2017.	2016	2019	Head of Student Development and Support, PhD Student Tutor
H.7	<i>ditto</i>	Using an existing compulsory first-term lecture for new students (UG or PGT), devote time to introducing the history of gender issues in CS and discussing prominent computer scientists, half being female. Avoid onerous load on lecturers by having students do the background research and some presentation production.	Student are demonstrably aware of the historical context of gender issues and CS. Measured in coursework. Well received by students.	Starts in 2017/18, maintained thereafter.	2017	2019	Head of Education
H.8	Improving inclusivity & addressing unacceptable behaviour	Add E&D-related questions to the module-evaluation forms and transition-review forms that are filled out by students, including questions about culture, behaviours and instructional material within the particular module in question.	Questions included.	Already in process: Initial version in place by Autumn 2016. Used termly thereafter.	2016	2019	Head of Quality Assurance
H.9	Addressing unacceptable behaviour	Continue to engage the University's <i>Equality and Diversity Adviser for Students</i> to give a talk on harassment and unacceptable behaviour in our student induction weeks.	Talks given and well received by students.	Starts in induction week in Autumn 2016. Annual thereafter.	2016	2019	Head of Student Development & Support
H.10	<i>ditto</i>	Induction lectures, student handbook and tutorials to ensure that it is clear who students should take specific problems to (e.g., a student representative, module lecturer, personal tutor, Welfare Team, Head of Student Development & Support, HoS).	Stdent Handbook modified and guidance notes provided for tutors.	In place in Autumn term 2016. Maintained thereafter.	2016	2019	Head of Student Development & Support, Senior Welfare Tutor
H.11	<i>ditto</i>	Make the existence of the female Welfare Team member better advertised than it already is at present.	Achieved as stated.	Already Completed: including photos of Welfare Team added to the student handbook. Maintained hereafter.	2016	2019	Senior Welfare Tutor
H.12	<i>ditto</i>	Introduce strong, explicit attention to E&D and behavioural issues in the Senior Tutor's talks that form part of taught-student induction weeks and to research-student induction material.	Achieved as stated. Positive reception by students.	In place in Autumn 2016 induction week.	2016	2019	Senior Tutor
H.13	<i>ditto</i>	Include guidance on unacceptable behaviour into the module demonstrator training sessions.	Achieved as stated.	In place in 2016/17. Maintained thereafter.	2016	2019	Demonstrator Tutor
H.14	Staff development	School to explore the setting up of a women's staff network.	If desired by female staff, network created and functioning as envisaged.	Decided, and, if needed, designed by Spring 2017 and In place for Autumn 2017.	2016 / 17	2019	SAT Chair, Head of Staffing

I. Flexibility and Family-friendly working (Section 4 - Flexibility and Managing Career Breaks)

Key issue	Action	Success criteria	Milestones	Start	End	Person Responsible
(Awareness of) flexible and family-friendly options	<i>Actions E.5 (concerning the School's Athena webpage) and F.4/G.5 (concerning childcare allowance).</i>	<i>above</i>	<i>above</i>	<i>above</i>	<i>above</i>	<i>above</i>
I.1 Managing career breaks	Extend the post-break teaching reduction (as already enhanced by the School) to apply to a wider range of lengthy leaves, such as for sickness and dependant-care, not just maternity, etc.	Broadened scheme in place as stated. This and other leave-support arrangements are properly discussed at induction and PDRs, and with staff enquiring about or returning from leaves. Use of these arrangements is considered by staff returning from relevant leaves, and is available to staff when they desire it.	Broadened scheme designed within School during 2016/17 with input from HR. Scheme in place for 2017/18 onwards. Induction/PDR/etc. mechanisms for awareness of the measures is in place from time of scheme initiation. These mechanism, maintained thereafter.	2016	2019	HoS, Head of Staffing
I.2 <i>ditto</i>	Develop a Post-Break Award for staff who are returners from lengthy leaves of the types in Action I.1. Possibilities to be discussed include a sum added to the staff member's "piggy-bank" account, partial support of a research assistant, or a limited matching sum to aid deployment of other resources the staff member may obtain.	Award scheme in place. See Action I.1 re awareness of it.	Broadened scheme designed within School during 2016/17 with input from HR and UoB senior management as necessary. Scheme in place for 2017/18 onwards. Awareness: see Action I.1.	2016	2019	HoS, Head of Staffing