

Athena SWAN Bronze Department award renewal application

Name of institution	University of Southampton
Department	Mathematical Sciences
Focus of department	STEMM
Date of application	November 2017
Award Level	Bronze
Institution Athena SWAN award	Date: November 2016 Level: Silver
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1 Letter of endorsement from the Head of Department



Equality Challenge Unit
First floor, Westminster Tower
3 Albert Embankment
London, SE1 7SP

Dear Equality Charters Manager,

I have been Head of Mathematical Sciences (MS) at the University of Southampton (UoS) since 2016. Athena SWAN has been a major catalyst for MS to identify challenges to gender equality in a male dominated discipline. I am a core member of the Departmental Equality, Diversity and Inclusion Committee (DEDIC) and of the sub-committee preparing this submission. I am committed to creating a departmental culture that allows all staff to reach their full potential and embraces the diversity of its environment. As a father who shares caring responsibilities for my 4 children, I am personally familiar with the challenges of managing work-life balance.

Since our Bronze award in April 2015, I have put into practice mandatory Equality and Diversity training by all staff (section 5.1.2), progressed significantly with an open and transparent workload model currently being piloted 2017/2018 (section 5.4.5), and established a core hours policy for emails, research meetings and seminars to accommodate colleagues with family commitments (section 5.4.6). Moreover, we now have an open and fair appointments process for key departmental roles based on soliciting 'expressions of interest' from all staff (section 5.4.3) and a renewed commitment at all levels to use the annual appraisal as an effective tool to support career aspirations (section 5.2.2).

We have increased female representation in senior positions in MS: there are now 3 female professors and 2 associate professors all of whom are new appointments or promotions (section 5.1.1 and 5.1.3). We also have a more gender balanced management group: previously it consisted of one woman and eight men; it is now made of five men and four women (section 2).

Our work towards this application has highlighted the need to continue to focus attention on improving the gender balance in the progression pipeline, and in particular, from post-doc (level 4) to lecturer (level 5) (section 4.2.1). We have already put in place a number of measures: all interview panels for permanent positions are mixed gender; job adverts include a more detailed diversity statement and job adverts are now routinely sent to the UK and European women in mathematics mailing lists (section 5.1.1). We also need to focus on improving the gender ratio of our undergraduate students, which has dipped slightly, by 4%. We have already improved the diversity of our advertising material and increased presence of female students and staff at open days, but more work needs to be done on this (section 4.1.2).

The department has a long way to go in improving its gender balance, both of staff and students, but I am confident that the strategies and initiatives outlined in this document will greatly support our efforts and aspirations for an Athena SWAN silver award in 2021.

I give my strongest personal support to our Athena SWAN Bronze renewal application. The information presented in the application (including qualitative and quantitative data) is an honest, accurate and true representation of the department.

Yours sincerely,

A handwritten signature in black ink, appearing to read "J. Forster".

Professor Jon Forster
Head of Mathematical Sciences

[489 words]

Glossary of Acronyms

AM	Applied Mathematics
AUMG	Academic Unit Management Group
AUPB	Academic Unit Programme Board (in charge of all teaching)
AUs	Academic Units
CERN	European Organisation for Nuclear Research
CoI	Co-Investigator (on a grant)
DEDIC	Departmental Equality, Diversity and Inclusion Committee
DoP	Director of Programmes (all UG and PGT teaching)
DoPhD	Director of PhD programmes (all PhD students)
DoR	Director of Research
E&D	Equality and Diversity
ECR	Early Career Researchers
ED&I	Equality, Diversity and Inclusion
FSHMS	Faculty of Social, Human and Mathematical Sciences
EPSRC	Engineering and Physical Sciences Research Council
FOS	Faculty Operating Services
HoAU	Head of Academic Unit
HoG	Head of Group
LMS	London Mathematical Society
MS	Mathematical Sciences
MSB	Mathematical Sciences Board
OR	Operational Research
PAT	Personal Academic Tutor
PGCAP	Postgraduate Certificate in Academic Practice
PI	Principal investigator (on a grant)
PM	Pure Mathematics
RCUK	Research Councils UK
SAT	Self-Assessment Team
SSLC	Staff-Student Liaison Committee
St	Statistics
STAG	Southampton Theory Astrophysics and Gravity
STFC	Science and Technology Facilities Council
UASC	University Athena SWAN Committee
UEB	University Executive Board
UoS	University of Southampton

2 Description of the Department

UoS has seven campuses and 31 academic units grouped into eight faculties. MS is one of five Academic Units (AUs) within the Faculty of Social, Human and Mathematical Sciences (FSHMS) and is based in a single building on the UoS main Highfield campus.

MS is a major UK centre for research and teaching in mathematics and its applications and comprises four research groups: pure mathematics (PM), applied mathematics (AM), statistics (St) and operational research (OR).

The Head of Academic Unit (HoAU), appointed by and reporting to the Dean of the Faculty, is responsible for the department's strategic direction and academic activity. The AU is overseen by the Academic Unit Management Group (AUMG) comprising five men and four women (Figure 1). Appointments to AUMG, made by HoAU following expressions of interest (section 5.4.3), are typically held for 3 years. AUMG meets fortnightly. The chair of the Departmental Equality, Diversity and Inclusion committee (DEDIC) attends three times a year.

		Men	Women	%Women
Staff	Academic	71	13	15
	Professional Staff	0	2	100
Students	Undergraduates	411	196	33
	Postgraduate Taught	27	47	64
	Postgraduate Research	38	33	46

Table 1 - Number of men and women in MS by student level and staff job family in 2016/17.

We are a thriving community of more than 800 staff and students (Table 1): our 84 staff are all academics (comprising post docs, lecturers, research fellows, professors) spanning the four research groups, divided into Teaching, Research, Enterprise and Balanced pathways (Figure 15 and Figure 17). Each Head of Group (HoG) manages the group's staff, except post-docs who are managed by their Principal Investigator (PI). Two Faculty Operating Services (FOS) staff provide administrative support. Whilst co-located in MS they are line managed by the Faculty. We ensure that they are included in all AU activities (e.g. social events, representation on DEDIC). There is a department-wide discussion and consultation forum, the Mathematical Sciences Board (MSB), whose chair is elected by staff.

Our undergraduate degrees are based on the four research areas. Three degree structures are available: integrated Masters (4 years), BSc Single or Combined Honours (3 years). Postgraduate Research students belong to the research group of their main supervisor. We offer five Postgraduate Taught courses spanning OR and Statistics, table 7. Staff-Student Liaison Committee (SSLC) is a forum for staff and students to discuss concerns about modules. Teaching quality assurance is the remit of the Academic Unit Programme Board (AUPB). Both committees are chaired by the Director of Programmes (DoP).

Recommended word count: Bronze: 500 words **365 words**

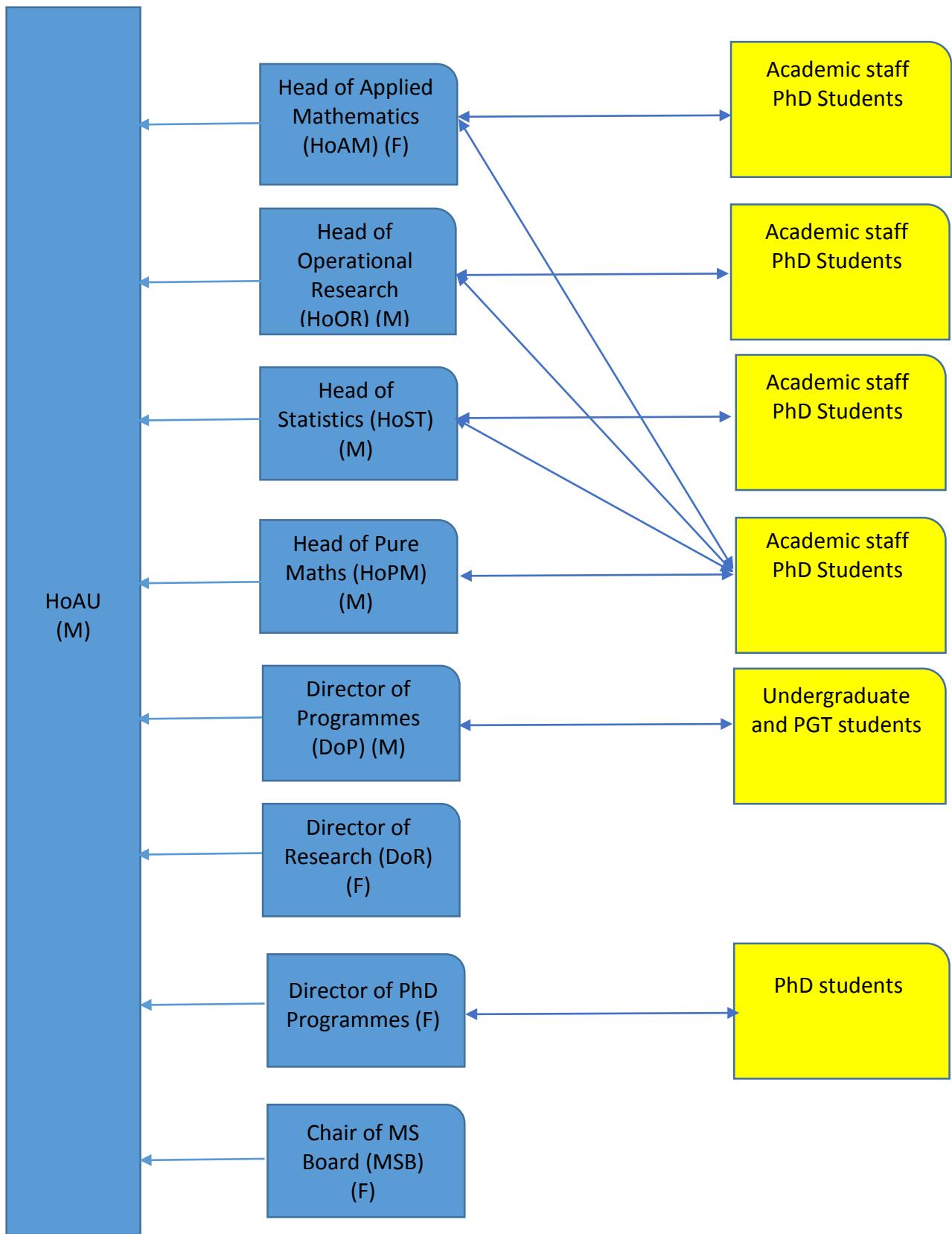


Figure 1 - AU Structure as of November 2017: Blue boxes represent AUMG members, yellow boxes staff and students. Arrows indicate lines of responsibility. Heads of Groups are responsible for the teaching allocation of the PhD students in their group; the Director of PhD Programmes is responsible for their academic progression.

3 The self-assessment process

3.1 The self-assessment team

The self-assessment team (SAT) was established in 2013 with 9 members (four men and five women) and achieved a Bronze award in April 2015. SAT was re-named the Departmental Equality, Diversity and Inclusion Committee (DEDIC) to reflect its wider remit (section 3.2). DEDIC comprises 8 men and 6 women representing all staff and student groups and also reflects a range of work-life balance experiences: 11 are full time, 3 part time, 9 have caring responsibilities.

The non-ex-officio members of the committee are nominated by the HoAU (4) or by expression of interest (1, 3, 8, 11 and 13). Non-ex-officio committee members are allocated 25 hours, the Chair 150 hours; ex-officio members' time is within the workload allocation of their job role.

	Name	Job title	DEDIC role
		Undergraduate student	Representative of UG students. Collecting information and opinions on issues that affect mainly UG students.
		Director of the PhD Programmes (ex-officio)	DoPhD is in charge of PhD training. His role in the committee is to ensure that EDI issues are considered in admissions to PhD courses and in their assessment and design.
		Post-graduate taught student	Representative of PGT students. Collecting information and opinions on issues that affect mainly PGT students.
	Dr Giampaolo D'Alessandro (4)	Associate Professor in Applied Mathematics	Chair. Coordinating EDI activities in the department, representative on faculty and university committees.
	Prof Jon Forster (5)	Head of Academic Unit (ex-officio)	Give general overview of the department and its university context. Direct link between committee and departmental management team.
	Dr David Gammack (6)	Director of Programmes (ex-officio)	The DoP is in charge of all UG and PGT teaching. His role in the committee is to ensure that EDI issues are considered in programme design and assessment.
	Prof Rebecca Hoyle (7)	Director of Research (ex-officio)	Bring to the committee research-related issues that may impact on equality, diversity and inclusion.
	Ms Susie Martin (8)	PhD student	Representative of PhD students. Collecting information and opinions on issues that affect mainly PhD students.
	Ms Michelle Pemberton (9)	FOS team (ex-officio)	Representative of the FOS team. Collecting information and opinions on issues that affect mainly the FOS team. Advise on implementation of EDI activities.

	Name	Job title	DEDIC role
	Dr Vesna Perisic (10)	WiSET representative (ex-officio)	Link with WiSET, a cross-departmental group that aims to increase the role of women in STEMM subjects.
	Member of academic staff	Representative of academic staff. Collecting information and opinions on issues that affect mainly academic staff.	
	Outreach team (ex-officio)	Link with the outreach team to ensure that EDI issues are considered when discussing outreach activities.	
	Early Career Researcher	Representative of early career researchers. Collecting information and opinions on issues that affect mainly early career researchers.	
	Admissions tutor (ex-officio)	Link with the admissions team to ensure that EDI issues are considered when discussion admission policies, advertising and activities.	

Table 2 - Membership of the Departmental Equality, Diversity and Inclusion Committee (DEDIC) as of May 2017

3.2 The self-assessment process

The Vice-Chancellor (VC) is the UoS Equality Diversity and Inclusivity (ED&I) champion. The University Executive Board (UEB) has incorporated ED&I as a core responsibility in its Terms of Reference, becoming the UoS de facto ‘ED&I Committee’. The Dean is responsible for delivering cultural change at local level and reporting progress to UEB and the University ED&I committee. The mechanism for achieving this in MS is via DEDIC.

The chair of DEDIC reports to the MSB at least once a year, to AUMG three times a year and is the AU representative on the University Athena SWAN committee (UASC) and the Faculty ED&I Committee, whose Chair reports to the Dean. DEDIC meets three times a year to make suggestions for improving ED&I in the AU, review data and receive updates from committee members on their allocated AS action points.

The self-assessment process has been built on the work programme established in our 2014 bronze award application. The consultation process has consisted of:

- in depth discussions with the previous SAT chair (Prof. Marika Taylor);
- informal discussions at MSB and a more focussed discussion with AUMG;
- MS staff survey (run every two years), most recently in May 2017 (47 staff responded, equivalent to a 54% response rate) denoted by (2017 SS);
- two meetings, one restricted to members of DEDIC and one open to all staff including Professional Support, led by external facilitator Prof Val Gibson (Cambridge);
- a women-only meeting held jointly between MS and Physics and Astronomy.

The submission was prepared by a sub-committee of DEDIC (Table 3). Two members were co-opted for their expertise: a lecturer in Statistics, Dr Helen Ogden, and a part time Athena SWAN Project Manager, funded by the Faculty, Ms Sunita Parhar. The PhD student was paid at demonstrating rates, while Dr D’Alessandro and Ogden had a workload allocation of 100 hours. The team reported directly to DEDIC. The subcommittee has met weekly from May to

September. The action plan was discussed and approved by AUMG at a meeting attended by the chair of DEDIC on 12th October 2017.

Name	Job title	SAT role
	Dr Giampaolo D'Alessandro	Associate Professor of Applied Mathematics Chair of DEDIC. Coordinated the submission and assisted with its editing.
	Prof Jon Forster	Professor of Statistics, Head of Department Member of DEDIC, selected for his in depth knowledge of the department.
	Ms Susan Martin	PhD Student in Statistics Member of DEDIC, selected for her knowledge of data analysis.
	Dr Helen Ogden	Lecturer in Statistics Co-opted for her knowledge of data analysis and experience in writing Athena SWAN submission.
	Ms Sunita Parhar	Faculty Athena SWAN Project Manager Part-time. Assisted with data assembly, guidance and editing of submission.

Table 3 - Membership of the Athena SWAN team listed alphabetically.

We have also liaised and shared good practices through the UASC and events hosted by the London Mathematical Society (LMS) Good Practice Scheme (most recently on 4th October 2017). The chair of DEDIC held informal discussions with colleagues at the University of Leeds and at Tufts University, Boston. Our submission was reviewed by an external consultant, Sean McWhinnie (Oxford Research and Policy), and by an internal university panel.

In what follows, progress of actions from our previous Action plan is denoted by **Bronze action x.x**. Results from 2015 staff survey (2015 SS) are not available by gender breakdown as the sample of women was too small. The number of respondents was 56 (60% response rate).

Achievements since our Bronze award include:

- Improved promotion applications and success rates by women and men: 4 out of 7 women (57%), 11 out of 16 men (68%), indicating no gender bias (Section 5.1.3).
- Raising awareness of equality and diversity (E&D) within the AU: 84% of all staff and 100% of all lecturing staff have completed ED&I training (previously 25%).
- A transparent work-load model which also accounts for teaching and admin tasks (Section 5.4.5).

3.3 Plans for the future of the self-assessment team

DEDIC will meet termly to review progress of the Athena SWAN action plan (Section 3.1), monitor data and identify additional actions as appropriate. In liaison with the Dean and HoAU, AUMG will lead the implementation of the action plan. DEDIC will hold a formal review of the Action Plan annually after which an updated version will be published. All updates, links, agendas and meeting dates will be available to staff through the AU communication channels (Section 5.4.1).

We will review DEDIC membership annually to ensure staff who would like to take part have the opportunity to do so, and allow role rotation, without compromising the diversity of the team. Student members are volunteers: unfortunately this year they were all women. We will try in future to have a more balanced gender split (**Action 1**).

DEDIC believes that more needs to be done to ensure that ED&I is fully embedded in MS. With this in mind all MS committees have a representative on DEDIC to ensure that gender equality and inclusivity are at the heart of every decision the AU makes. ED&I will be a standing item on the agenda of all MS committees (**Action 2**). Representatives on DEDIC will be responsible for the AS actions under their remit and will report at each DEDIC meeting (**Action 3**). This approach will promote wider staff engagement, enable workload sharing and progress of the action points.

As well as the student and staff surveys and anonymous emailing through the MS ED&I intranet page (section 5.4.1), regular consultation will include more informal gatherings like conversation cafes (**Action 4**). Feedback received will be discussed at MSB and on the MS blog page (section 5.4.1).

We will continue to share best practice internally via the UASC and provide advice to other Faculty/AU on their submissions.

Recommended word count: Bronze: 1000 words **950 words**

4 A picture of the department

4.1 Student data

4.1.1 Numbers of men and women on access or foundation courses

STEMM Foundation courses are run by Engineering, with MS providing service teaching of mathematics. Engineering foundation students can transfer to MS: during the review period 3 men and 1 woman took this opportunity. In 2016/17 the course was also branded as Mathematics foundation to emphasise the possibility of going directly into the UG MS programme. Uptake: one (male) student.

Few students take this entry route, but we are keen to keep it open: it is the only opportunity for students who lack A-level Mathematics to enter in the UG MS programme and is one aspect of the UoS efforts to widen participation.

4.1.2 Numbers of undergraduate students by gender

MS offers 15 undergraduate courses, only full time, with approximately 600 students. From all courses it is possible to switch at any point to a BSc in Mathematical Studies and from the MMath to the BSc Mathematics. For the purpose of this analysis we have grouped the programmes into four groups: Mathematics, Mathematics with Applications (mainly finance related), Mathematics with Science and Mathematics with Arts (Table 4).

Degree programme	Student No.			Group
	Men	Women	%F	
MMath Mathematics (4 years)	76	19	20	Mathematics
BSc Mathematics (3 years)	107	73	41	
BSc Math. Studies (3 years)	10	5	33	
BSc Mathematics with Actuarial Science (3 years)	93	51	35	Mathematics with applications
BSc Mathematics with Finance (3 years)	24	13	35	
BSc Mathematics with Statistics (3 years)	21	8	28	
MMORSE (Mathematics, Operational Research, Statistics and Economics) (4 years)	3	2	40	
BSc MORSE (Mathematics, Operational Research, Statistics and Economics) (3 years)	47	23	33	
MMath Mathematical Physics (4 years)	4	0	0	Mathematics with science
Bsc Mathematics with Physics (3 years)	12	4	25	
BSc Mathematics with Biology (3 years)	2	0	0	
BSc Mathematics with Computer Science (3 years)	15	5	25	
BSc Mathematics with French (4 years)	3	1	40	Mathematics with arts
BSc Mathematics with German (4 years)	3	3	50	
BSc Mathematics with Spanish (4 years)	1	7	88	
BSc Mathematics with Music (3 years)	2	1	33	

Table 4 - Degree programmes offered by MS in 2016/17 (left) grouped by classes (right). The middle column is the number of students per academic year on the corresponding degree programme averaged over the years they were running from 2014/15 to 2016/17.

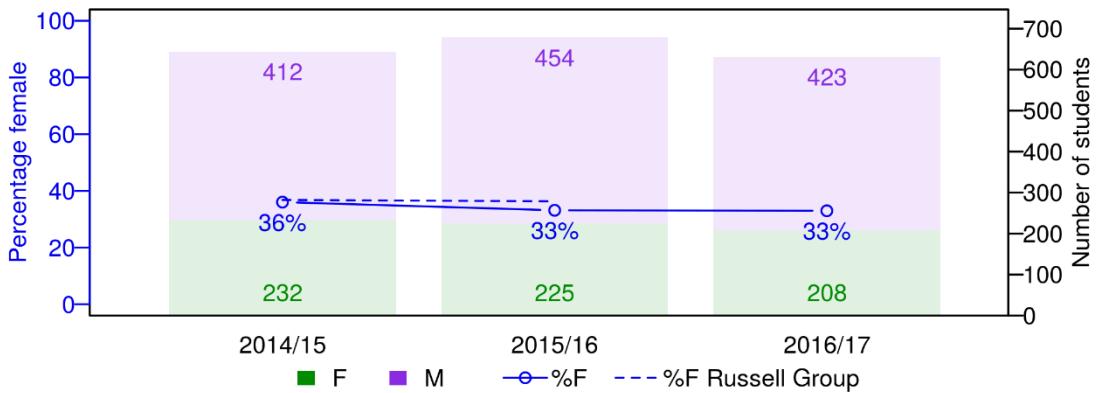


Figure 2 - Total UG student numbers (black, right axis) split in males and females (violet and green), and percentage (blue, left axis) of female students in the academic years 2014/15 to 2016/17. The dashed line represents the percentage in the comparator (Russell Group Universities).

Overall, the number of UG students has slightly increased (Figure 2), but with a small decrease in the proportion of female undergraduates. We are now below the average for female students in Mathematics Department in Russell group universities (40%).

Closer examination of the data shows there is a decrease in the number of UK female students from 31% to 28% (Figure 3), whilst the percentage of female international students is between 44%-46% (Figure 4).

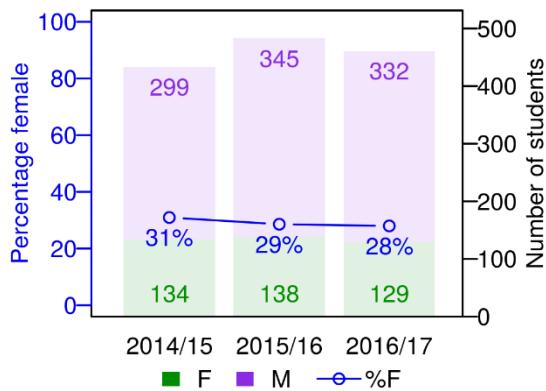


Figure 3 - Total UK-UG student numbers (black, right axis) split in males and females (violet and green), and percentage (blue, left axis) of female students in the academic years 2014/15 to 2016/17.

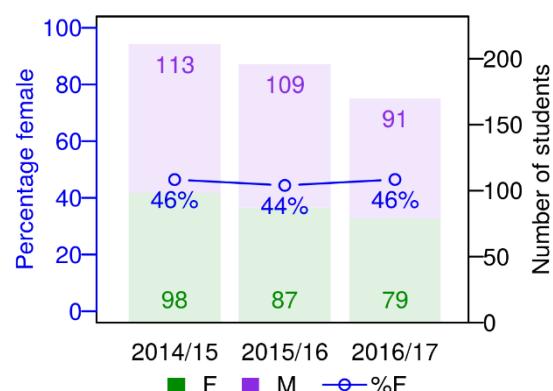


Figure 4 - Total international-UG student numbers (black, right axis) split in males and females (violet and green), and percentage (blue, left axis) of female students in the academic years 2014/15 to 2016/17.

The percentages of female students in the two larger classes of degree programmes (Figure 5) follows the general trend in Figure 2; it is historically lower in Mathematics with science; the opposite is true for Mathematics with arts, reflecting the general gender imbalance in the corresponding disciplines.

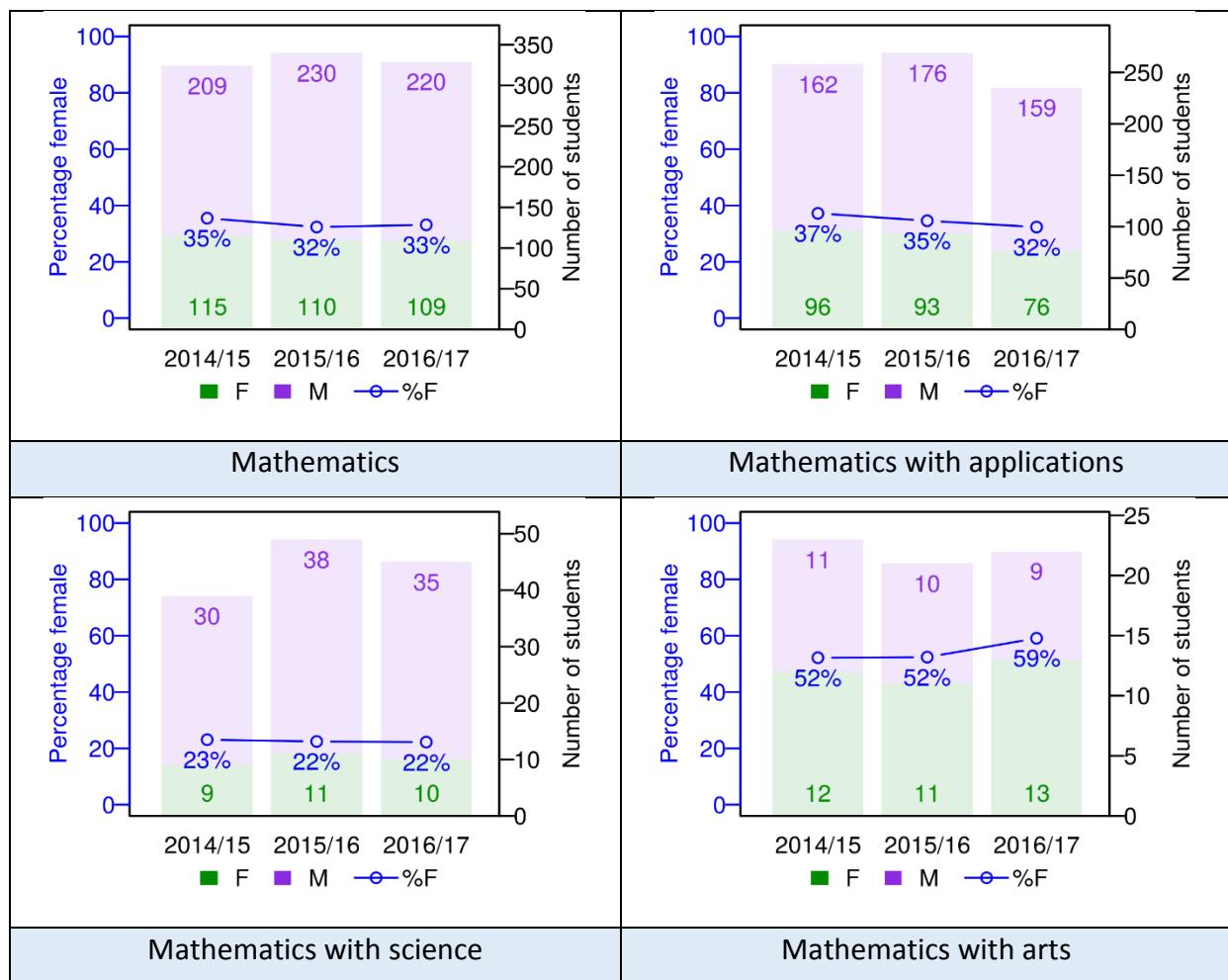


Figure 5 - Total UG student numbers (black, right axis) in the four classes of degree programmes split in males and females (violet and green), and percentage (blue, left axis) of female students in the academic years 2014/15 to 2016/17.

The decrease in the percentage of UK female undergraduates is a major cause of concern and will be one of the priority areas of action in the next review period. We have already reviewed our marketing material and attained a gender balanced presence at open days in response to monitoring UG admission data (**Bronze Action 1.1**). We have introduced an employability module as part of a restructuring of all the degree programmes to improve attraction rates. We will review all aspects of our admission procedures (**Action 5**), but we need more understanding to make more substantive changes. We therefore intend to survey new starters and applicants who have not accepted our offer to find what they think could be done to attract more women to our programmes (**Action 6**).

Year	Gender	Applications	Offers	Entrants	Proportion of applicants receiving offers	Proportion of those receiving offers entering	Proportion of applicants entering
2014/15	Female	506	465	72	92%	15%	14%
	Male	856	780	160	91%	21%	19%
	% Female	37%	37%	31%			
2015/16	Female	513	487	65	95%	13%	13%
	Male	928	855	163	92%	19%	18%
	% Female	36%	36%	29%			
2016/17	Female	531	499	63	94%	13%	12%
	Male	1022	926	126	91%	14%	12%
	% Female	34%	35%	33%			
Overall	Female	1550	1451	200	94%	14%	13%
	Male	2806	2561	449	91%	18%	16%
	% Female	36%	36%	31%			

Table 5 - Relationship between Undergraduate applications, offers and acceptances by gender

MS standard offer is A*AA or AAA or equivalent depending on the degree programme applied for. We do not require Further Maths. We have had between 34%-37% of applications from women each year (Table 5). The percentage of offers made shadows the applications exactly each year, indicating there is no intrinsic gender bias in the admissions procedure, but percentage of women accepting offers is smaller than men (Table 5).

Female	1st	Upper 2nd	Lower 2nd	3rd	Pass	Total
2013/14	19 (28%)	26 (38%)	19 (28%)	4 (6%)	0 (0%)	68
2014/15	22 (34%)	25 (38%)	15 (23%)	1 (2%)	2 (3%)	65
2015/16	30 (39%)	27 (35%)	17 (22%)	3 (4%)	0 (0%)	77
Overall	71 (34%)	78 (37%)	51 (24%)	8 (4%)	2 (1%)	210
Male	1st	Upper 2nd	Lower 2nd	3rd	Pass	Total
2013/14	41 (37%)	48 (43%)	15 (13%)	6 (5%)	2 (2%)	112
2014/15	24 (27%)	31 (34%)	27 (30%)	6 (7%)	2 (2%)	90
2015/16	34 (28%)	51 (41%)	30 (24%)	8 (7%)	0 (0%)	123
Overall	99 (30%)	130 (40%)	72 (22%)	20 (6%)	4 (1%)	325

Table 6 - Undergraduate degree classification by gender for the last three academic years for which data is available.

With exception of 2013/14, women consistently outperform men (Table 6), but the difference in first and upper second degrees between the genders is small (71% and 70% respectively). In general female students have higher entry grades than male students (Figure 6) possibly due to clearing effects, except for the 2011 cohort (that would have graduated in 2014). At

the end of year one 6-9% of students do not continue (Figure 7). Both graphs suggest that the entry grade is a good predictor of the final degree classification for both men and women and that the provision of teaching in the department is not gender-biased. We monitor marks of first year weekly assignments; PATs are alerted if the performance of their tutees is below par and encourage them to attend open ended help sessions where UG students can ask lecturers, PhD students and final year UG students for help (section 5.2.4). We will investigate if there is any further form of support we can provide to help reduce the gender performance gap (**Action 7**).

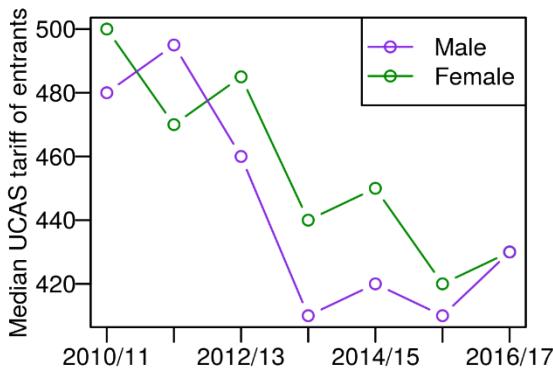


Figure 6 - Average entry tariff of female (red) and male (blue) UG applicants.

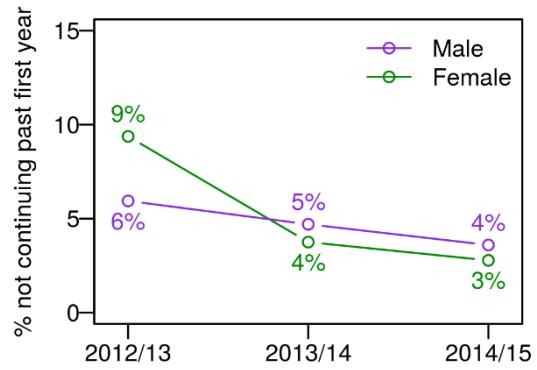


Figure 7 - Percentage of registered UG students who do not continue after year one.

4.1.3 Number of men and women on postgraduate taught degrees

Degree programme	Student No.		Student No.		Group
	M	F	FT	PT	
MSc in Operational Research	12	9	19	2	Operational Research
MSc in Operational Research and Finance	7	9	15	1	
MSc in Operational Research and Statistics	0	2	2	0	
MSc in Statistics with Applications in Medicine	5	11	14	2	Statistics
MSc/PG Dip in Actuarial Science	7	7	13	1	
MSc Statistics	8	7	15	0	

Table 7 - Average number of PGT students enrolled on MSc degree programmes offered by MS. The middle column contains the number of students (full time (FT)/part time (PT)) per academic year on the corresponding MSc programme averaged over the years they were running from 2014/15 to 2016/17. The MSc in Operational Research and Statistics started recruiting in 2016/17

MS runs six MSc programmes. For the purpose of this analysis we have arranged them into two groups: Statistics and Operational Research (Table 7). In this table we present the average data because of large year-to-year fluctuations in student numbers. Information about part-time study is on the web sites of all our MSc programmes [**Bronze action 2.4**] except for the MSc in OR and St, which is still in a pilot stage. However, the total number of part-time PGT students is very small (10F and 6M in total over the review period).

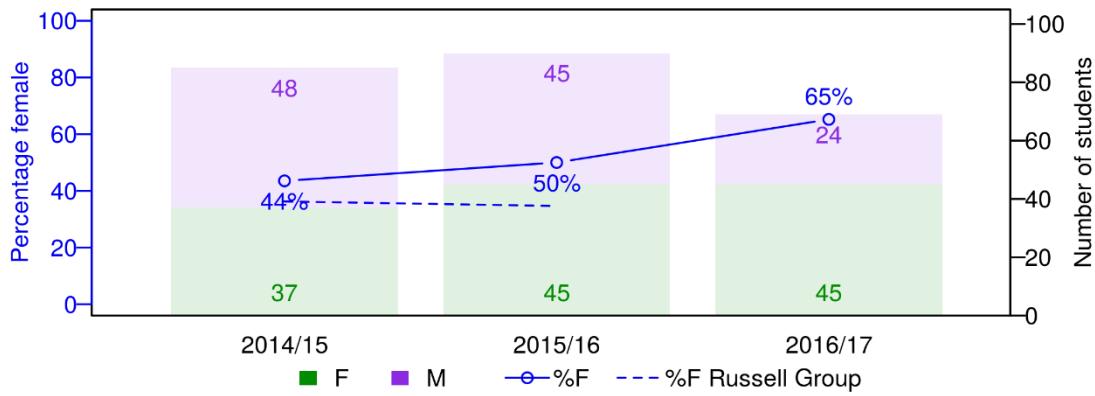


Figure 8 - Total PGT student numbers (black, right axis) split in males and females (violet and green), and percentage (blue, left axis) of female students in the academic years 2014/15 to 2016/17. The dashed line represent the percentage in the comparator (Russell group universities).

The average number of students on our PGT programmes since 2014/15 is approximately 75 and the female to male ratio 50:50 (Figure 8). While this is well above the national average, the comparison may be biased because we offer MSc's only in St and OR, while the comparator data covers all MSc's. We will attempt to obtain more suitable benchmarking data (**Action 8**).

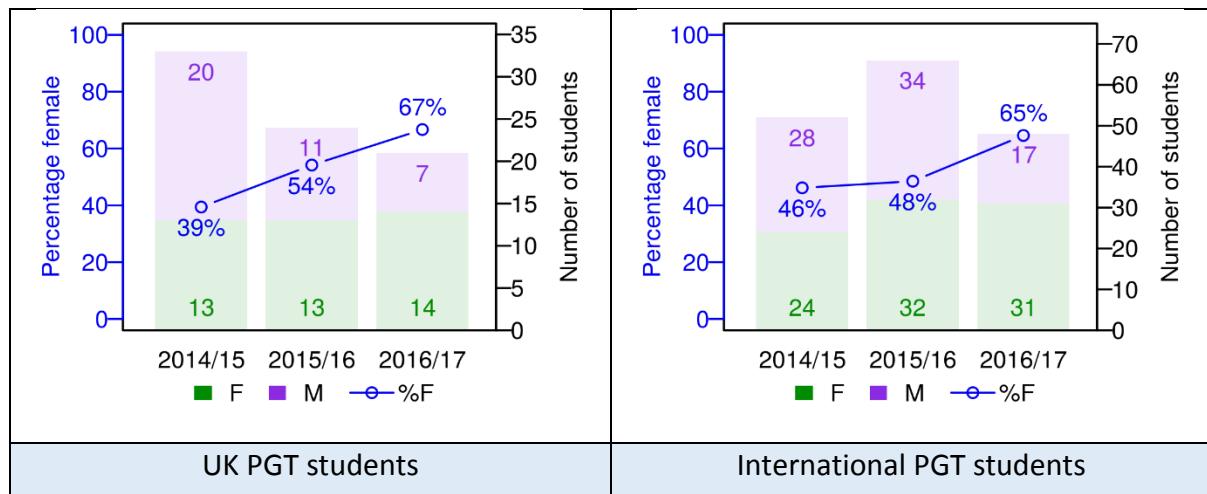


Figure 9 - Total UK (left) and international (right) PGT student numbers (black, right axis) split in males and females (violet and green), and percentage (blue, left axis) of female students in the academic years 2012/13 to 2016/17.

Gender ratios of UK and International students are comparable (Figure 9). During the reporting period, the intake of female UK students on our PGT courses has risen from 39% to 67%. There is no significant difference in gender ratios between the two classes of degree programmes (Figure 10). The spike in 2016/17 female entrants will be investigated and monitored to ensure this is not a trend (**Action 9**). The attractiveness of all PGT programmes to both genders is further confirmed by the admission data in Table 8.

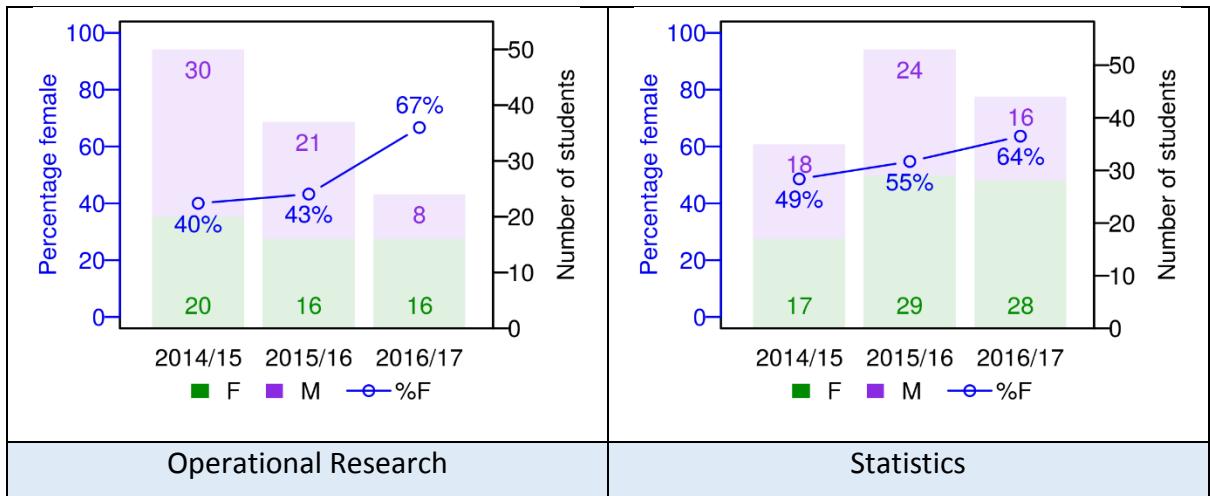


Figure 10 - Total PGT student numbers (black, right axis) split in males and females (violet and green), and percentage (blue, left axis) of female students in the academic years 2014/15 to 2016/17 in the two classes of degree programmes.

Year	Gender	Applications		Offers		Entrants		Proportion of applicants receiving offers	Proportion of those receiving offers entering	Proportion of applicants entering
		Female	Male	Female	Male	Female	Male			
2014/15	Female	165	168	111	97	37	46	67%	33%	22%
	Male							58%	47%	27%
	% Female	50%		53%		45%				
2015/16	Female	210	210	140	128	42	44	67%	30%	20%
	Male							61%	34%	21%
	% Female	50%		52%		49%				
2016/17	Female	200	212	129	126	44	23	64%	34%	22%
	Male							59%	18%	11%
	% Female	49%		51%		66%				
Overall	Female	575	590	380	351	123	113	66%	32%	21%
	Male							59%	32%	19%
	% Female	49%		52%		52%				

Table 8 - Relationship between PGT programmes applications, offers and acceptances by gender.

Whilst we receive a gender balanced pool of applications for our PGT programme, during the reporting period fractionally more women received offers, but men were slightly more likely to accept an offer. Overall there is no gender bias in the recruitment process.

Female	Distinction	Merit	Pass	PG Dip	PG Cert	Total
2013/14	9 (50%)	8 (44%)	0 (0%)	1 (6%)	0 (0%)	18
2014/15	14 (48%)	10 (34%)	4 (14%)	1 (3%)	0 (0%)	29
2015/16	12 (36%)	14 (42%)	7 (21%)	0 (0%)	0 (0%)	33
Overall	35 (44%)	32 (40%)	11 (14%)	2 (2%)	0 (0%)	80
Male	Distinction	Merit	Pass	PG Dip	PG Cert	Total
2013/14	5 (28%)	7 (39%)	4 (22%)	0 (0%)	2 (11%)	18
2014/15	13 (36%)	16 (44%)	6 (17%)	1 (3%)	0 (0%)	36
2015/16	20 (48%)	16 (38%)	4 (10%)	2 (5%)	0 (0%)	42
Overall	38 (40%)	39 (41%)	14 (15%)	3 (3%)	2 (2%)	96

Table 9 - PGT programmes degree classification by gender for the last three academic year for which data is available.

Overall PGT success rates as well as gender balance in pass rates is comparable (Table 9). Only four students (1M/3F) out of more than 300 left any of the MSc programmes in the last four years without any qualification.

4.1.4 Numbers of men and women on postgraduate research degrees

Applied Mathematics	2014/15	2015/16	2016/17	Average
Female	2	1	1	1.3
Male	2	3	6	3.7
Total	4	4	7	5.0
Percentage female	50%	25%	14%	26%
Operational Research	2014/15	2015/16	2016/17	Average
Female	3	3	2	2.7
Male	3	3	3	3.0
Total	6	6	5	5.7
Percentage female	50%	50%	40%	47%
Pure Mathematics	2014/15	2015/16	2016/17	Average
Female	1	3	0	1.3
Male	3	2	3	2.7
Total	4	5	3	4.0
Percentage female	25%	60%	0%	33%
Statistics	2014/15	2015/16	2016/17	Average
Female	6	1	3	3.3
Male	1	3	2	2.0
Total	7	4	5	5.3
Percentage female	86%	25%	60%	63%
All groups	2014/15	2015/16	2016/17	Average
Female	12	8	6	8.7
Male	9	11	14	11.3
Total	21	19	20	20.0
Percentage female	57%	42%	30%	43.5%

Table 10 - Number of PGR students per research group and per gender starting in the corresponding academic year.

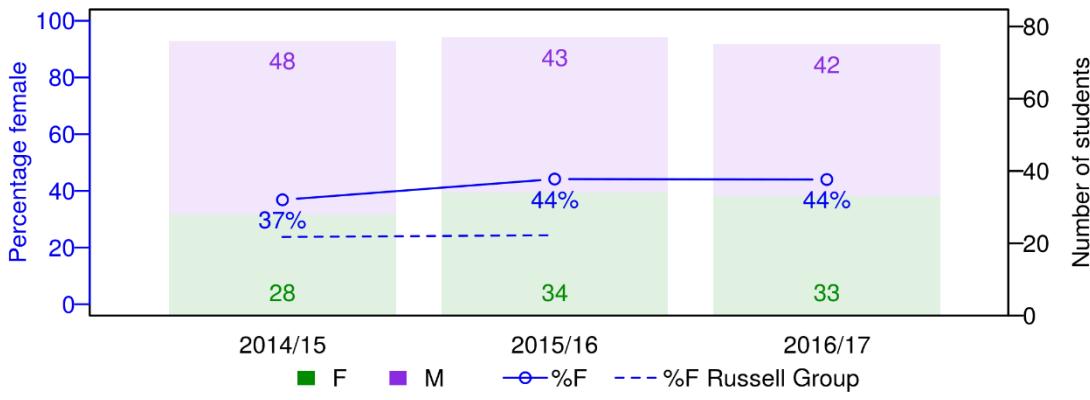


Figure 11 - Total PGR student numbers (black, right axis) split in males and females (violet and green), and percentage (blue, left axis) of female students in the academic years 2014/15 to 2016/17. The dashed line represent the percentage in the comparator (Russell group universities).

Our aggregate gender ratio for PhD students averages to 42% over the last three years, above the national benchmark (24%, Figure 11). St and OR attract a larger percentage of women than PM and AM (Table 10). However, these data suffer from large fluctuations due to small student numbers. Less than 10% of the PGR students (only 1 or 2 a year) are part-time.

The percentage of total international PGR students averages 59%; of these, 49% are female, whilst the percentage of UK PhD students is 41% and 31% respectively (Table 11), much higher than the benchmark. We circulate PhD openings via Women in Mathematics lists, asking colleagues to encourage strong female candidates to apply (**Bronze action 1.1**) and we proactively make offers early in the application cycle to women followed by personal contacts encouraging them to accept (**Bronze action 1.2**). Female staff have talked at the London Mathematical Society Prospects in Mathematics meetings aimed at all prospective PhD students. We will survey the PGR applicants who decide not to come to see if there are any specific issues that need addressing (**Action 10**) and target better our best female UG students to encourage them to apply for further study (**Action 11**).

Nationality / Gender	Total numbers	Percentage of total	Percentage of group	Russell group
All students	228			
UK	93	41%		
UK - Female	29	13%	31%	24%
OS	135	59%		
OS - Female	66	29%	49%	28%

Table 11- Nationality and gender data for PGR students summed over the academic years from 2012/13 to 2016/17. The Russell group data is only up to 2014/15.

Year	Gender	Applications	Offers	Entrants	Proportion of applicants receiving offers			Proportion of applicants entering
					those receiving offers	those entering		
2014/15	Female	36	9	8	25%	89%		22%
	Male	80	12	10	15%	83%		12%
	% Female	31%	43%	44%				
2015/16	Female	34	11	7	32%	64%		21%
	Male	66	15	10	23%	67%		15%
	% Female	34%	42%	41%				
2016/17	Female	26	4	4	15%	100%		15%
	Male	70	16	17	23%	106% (*)		24%
	% Female	27%	20%	19%				
Overall	Female	96	24	19	25%	79%		20%
	Male	216	43	37	20%	86%		17%
	% Female	31%	36%	34%				

(*) Deferred entry from previous year.

Table 12 - Relationship between PGR programmes applications, offers and acceptances by gender.

MS offers PGR places only to academically suitable applicants funded by Research Councils, industry or UoS. This explains the large difference between applications and offers made in Table 12. Due to small numbers, there are considerable fluctuations from year to year (compare for example 2015/16 with 2016/17), but on average there does not appear to be any gender bias in the recruitment process.

Since 2012/13 9 students (all male) left their PGR studies within the first year, one male student obtained an MPhil.

4.1.5 Progression pipeline between undergraduate and postgraduate students levels

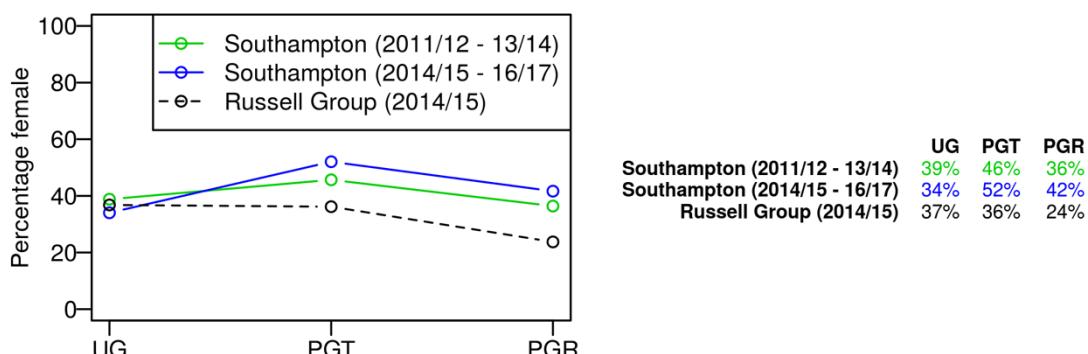


Figure 12 - Percentage of female students in the three classes of programmes offered by MS in the current period of assessment (blue), in the previous (green). The dashed line is the comparator data for the Russell group.

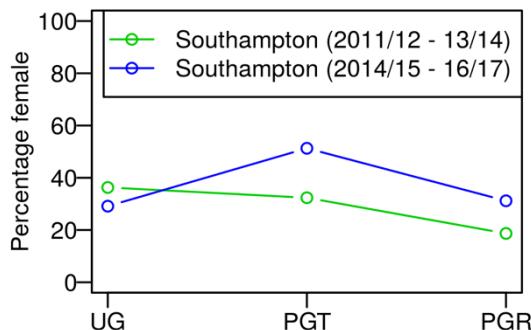


Figure 13 - Percentage of UK female students in the three classes of programmes offered by MS in the current period of assessment (blue), in the previous (green).

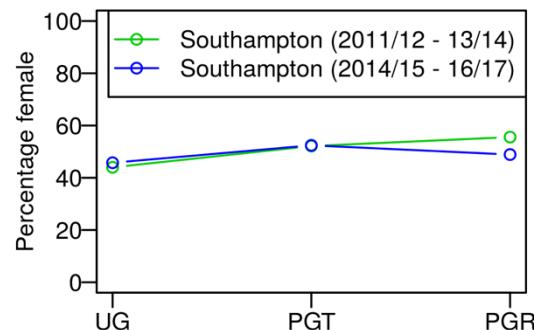


Figure 14 - Percentage of international female students in the three classes of programmes offered by MS in the current period of assessment (blue), in the previous (green).

Closer examination of the data in Figure 12, illustrates that historically UK domiciled students, Figure 13, were less likely than international students, Figure 14, to progress from first degree. In the current reporting period we note the proportion of UG female UK domiciled students has fallen from 36% to 29% but risen on master programme from 32% to 51%, and on the doctoral programme from 19% to 31%. There is little change in the proportion of international female students except for doctoral programme down 7% (Figure 13 and Figure 14 respectively). This confirms that UG-PhD is the key transition point and that work is needed to persuade more women to study for a PhD (Section 5.2.4). One way to do this is to expose UG students to summer research projects. For example, one of our recent UG students spent two months of summer in New Zealand as part of an exchange project scheme. We will intensify our advertisements of summer research studentships and encourage staff to offer them to promising undergraduates (**Action 11**).

Case study: Summer UG project in New Zealand

My summer studentship was certainly a valuable couple of months; although I was already intending to do a PhD, it was good to discover that I could do (and enjoy) that kind of more self-determined work. This made me a lot more confident in my decision about coming back to University to further my studies.

PhD student (female)

4.2 Academic and research staff data

4.2.1 Academic staff by grade, contract function and gender: research-only, teaching and research or teaching-only

UoS academic staff (including postdoctoral researchers) are appointed at levels 4 – 7¹ and follow one of four career pathways (Figure 15): “Balanced”, “Research”, “Enterprise” or “Education”. Each has its individual guidance in career progression and promotion criteria which are available on the intranet and linked from the online appraisal form.

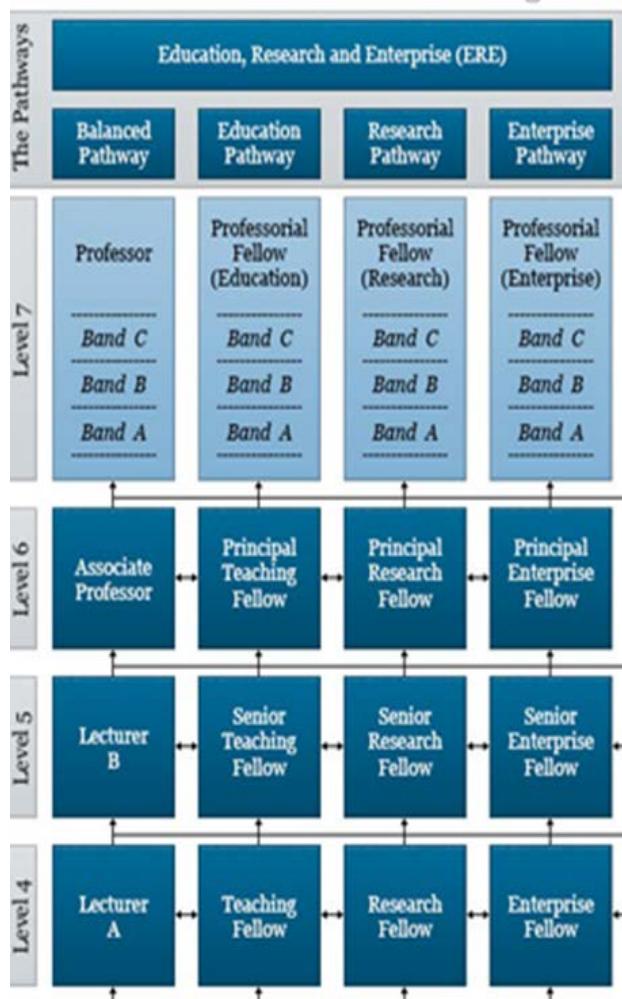


Figure 15 - University of Southampton Career pathways map (from university intranet) showing typical job titles by grade and job family.

¹ Our pay grade levels 1a to 6 map against XpertHR grades I through P Level 4 = XpertHR K; Level 5 = XpertHR J; Level 6 = XpertHR I; Level 7 = UCEA senior grades

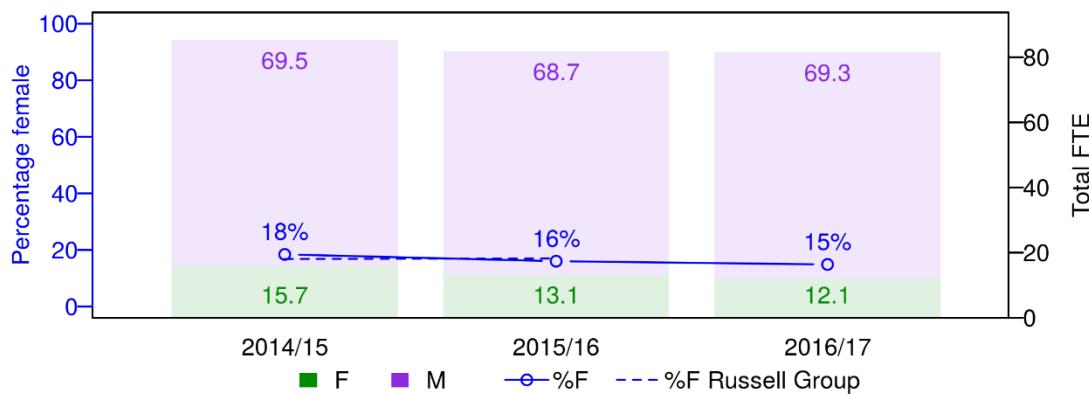


Figure 16 - Total FTE staff numbers (black, right axis) split in males and females (violet and green), and percentage (blue, left axis) of female staff in the academic years 2014/15 to 2016/17 in comparison with Russell group universities (dashed).

The total number of academic staff has been fairly constant (approximately 80-90) during the reporting period and the gender ratio has remained below 20% women (Figure 16) almost identical to that of the Russell Group universities (16% in 2015/16).

Year	Gender	Level 4	Level 5	Level 6	Level 7	Total
2014/15	Female	7	5	3.7	0	15.7
	Male	18.1	19.8	11.4	20.3	69.6
	% Female	28%	20%	25%	0%	18%
2015/16	Female	5	3.6	2.7	1.8	13.1
	Male	17.5	17.1	12	22.1	68.7
	% Female	22%	17%	18%	8%	16%
2016/17	Female	4	3.5	1.8	2.8	12.1
	Male	15.5	17	14.9	21.9	69.3
	% Female	21%	17%	11%	11%	15%
Average (2014/15 - 2015/16)	Female	5.3	4	2.7	1.5	13.6
	Male	17	18	12.8	21.4	69.2
	% Female	24%	18%	18%	7%	16%
Average (2011/12 – 2013/14)	Female	3	5.2	2	0.9	11.0
	Male	18.8	16.2	14.9	18.1	68.0
	% Female	14%	24%	12%	5%	14%

Table 13 - FTE numbers of men and women at each level by grade and year.

Whilst there is a decrease in the percentage of women with seniority, with respect to the previous period of assessment 2011/12-2013/14 there has been an improvement in the gender ratio at levels 4, 6 and 7 Table 13. The decrease in level 5 (lecturer) is caused by two promotions to level 6, one lecturer leaving and the limited number of new lectureships available. In the same period there have been three level 7 (Professor) appointments, one external and two by promotion to level 7.

Full-Time	2014/15	2015/16	2016/17	Average
Men	66.4	67.4	67.2	67
Women	15	11	10	12
Total	81.4	78.4	77.2	79
Percentage Women	18%	14%	13%	15%
Part-Time	2014/15	2015/16	2016/17	Average
Men	4	3	3	3.3
Women	1	3	3	2.3
Total	5	6	6	5.6
Percentage Women	20%	50%	50%	41%

Table 14 - Number of staff by full-time/part-time status and per gender in the corresponding academic year, represented by Full Person Equivalent (FPE). Some full time staff are shared between departments.

Less than 10% of the academics in MS are working part-time (Table 14), split approximately 60-40 male-female. The decrease in percentage of FTE women in the last three years, is mainly due to (i) Fixed Term Contract (FTC) women leaving at the end of their contract, (ii) the latest post-docs being in string theory and general relativity, where there are fewer female researchers, and (iii) the lack of new positions at level 5 to replace staff who have left (one of which was a woman).

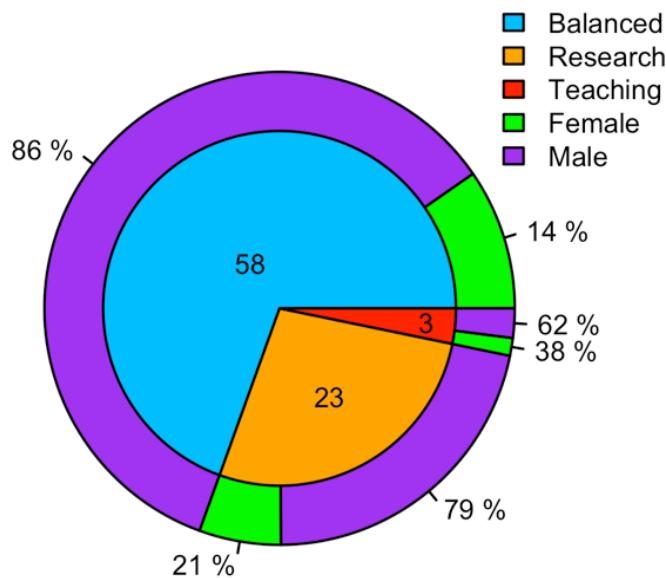


Figure 17 - The inner pie shows the average number of FTEs in the three pathways. The outer ring splits each inner sector in percentages of female and male FTEs.

	Level 4			Level 5			Level 6			Level 7		
	M	F	%F									
Balanced pathway												
2014/15	5	1	17%	15	4	21%	10	4	28%	21	0	0%
2015/16	2	1	33%	14	3	18%	11	3	21%	23	2	8%
2016/17	2	0	0%	13	3	19%	13	2	13%	22	3	12%
Research pathway												
2014/15	14	6	31%	4	0	0%	0	0	0%	0	0	0%
2015/16	16	4	21%	3	0	0%	0	0	0%	0	0	0%
2016/17	13	4	24%	4	0	0%	0	0	0%	0	0	0%
Teaching pathway												
2014/15	0	0	0%	1	1	50%	0	0	0%	0	0	0%
2015/16	0	0	0%	1	1	50%	0	0	0%	0	0	0%
2016/17	1	0	0%	1	2	67%	0	0	0%	0	0	0%
Enterprise pathway												
2014/15	0	0	0%	1	0	0%	0	0	0%	0	0	0%
2015/16	0	0	0%	1	0	0%	0	0	0%	0	0	0%
2016/17	0	0	0%	1	0	0%	0	0	0%	0	0	0%

Table 15 - Number of academic staff on each pathway by grade and gender

The vast majority of academics in MS are in the balanced pathway (Figure 17). The gender ratio of this category reflects the average, while the gender ratio of the research pathway (mainly level 4, Table 15) is higher, in agreement with Table 13. The challenge for MS is to ensure that this higher ratio is propagated to other levels.

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

Level	Contract	2014/15		2015/16		2016/17		Average	
		F	M	F	M	F	M	F	M
Level 4	Fixed-Term	7	18.1	5	16.5	4	15.5	5.3	16.7
	Open-ended	0	0	0	1	0	0	0	0.3
	% on FT Contracts	100%	100%	100%	94%	100%	100%	100%	98%
Level 5	Fixed-Term	0	7	0	7	0	7	0	7
	Open-ended	5	12.8	3.6	10.1	3.5	10	4	11
	% on FT Contracts	0%	35%	0%	41%	0%	41%	0%	39%
Level 6	Fixed-Term	0	0	0	0	0	0	0	0
	Open-ended	3.7	11.4	2.7	12	1.8	14.9	2.7	12.8
	% on FT Contracts	0%	0%	0%	0%	0%	0%	0%	0%
Level 7	Fixed-Term	0	0.5	0	0.5	0	0	0	0.3
	Open-ended	0	19.8	1.8	21.6	2.8	21.9	1.5	21.1
	% on FT Contracts	-	2%	0%	2%	0%	0%	0%	2%

Table 16 - Percentage of contract types by level and gender averages over the years 2014/15 to 2016/17.

Most level 5-7 staff hold permanent contracts (Table 16). Level 4 staff are mostly research staff on research grants (Table 15); a few are short-term lecturers. All are on fixed term contracts (FTC). MS does not have any staff who have been on fixed-term contracts for more than 4 years.

ECRs in level 4 positions are supported by their PI to seek postdoctoral and academic positions before the end of their contract. As part of our effort to stem the level 4 to level 5 leak we will introduce yearly reminders to post-docs including training courses on interview and grant writing techniques and, in particular, encourage female researchers to apply for fellowships (**Action 12**).

Level 5 staff holding temporary contracts are either on short term teaching cover or senior research fellows, contracted for the duration of research grants mainly in the areas of string theory and general relativity, where there are relatively few women.

There have been three fixed term appointments (2 level 5, both male, and 1 level 4, female) to cover for staff on fellowships. Maternity and paternity leave are covered internally. Level 7 staff on fixed-term contracts are short-term secondments or retired staff from other institutions with particular research expertise.

The University does not operate zero-hour contracts for core teaching and research staff. However, all our PGR students play a role in teaching as a developmental opportunity. Students are paid an hourly rate and are guaranteed a minimum of 70 hours per year.

4.2.3 Academic leavers by grade and gender and full/part-time status

The majority of leavers are level 4 staff on FTC (Table 17). Only 6 academics at other levels have left MS during the reporting period. We are unable to develop any substantial commentary about departing staff, due to the absence of exit interviews. We will develop and implement exit interviews and assess information provided by a new UoS online exit survey in 2017 (**Action 13**).

We work hard to retain staff where possible. Three months prior to the end of their contract, FTC staff are placed on the redeployment register and given priority consideration for any vacancies across the university. We encourage post-docs to apply to other departments for career development, and some have returned afterwards.

Two (2M) left because of the end of their contract, while the other four (3M/1F) moved to other institutions. The female level 4 leaver, had previously been a Southampton PhD student. She moved to Oxford for a post-doc and then came back to Southampton for a second post-doc. She is currently in full employment as a lecturer at Royal Holloway.

Grade	Year	Female					Male			
		Head-count	Leavers		Turnover	Head-count	Leavers		Turnover	
			FTC	Resign		FTC	Resign			
Level 4	2013/14	3	0	0	0%	22	0	1	5%	
	2014/15	7	0	0	0%	19	4	1	27%	
	2015/16	5	1	0	20%	18	1	4	28%	
	Total	15	1	0	7%	59	5	6	19%	
Level 5	2013/14	7	0	0	0%	22	0	1	5%	
	2014/15	5	0	1	20%	20	0	1	5%	
	2015/16	4	0	0	0%	18	0	1	6%	
	Total	16	0	1	6%	60	0	3	5%	
Level 6	2013/14	2	0	0	0%	14	1	0	7%	
	2014/15	4	0	0	0%	12	1	0	8%	
	2015/16	3	0	0	0%	12	0	0	0%	
	Total	9	0	0	0%	38	2	0	5%	
Level 7	2013/14	2	0	0	0%	22	0	0	0%	
	2014/15	0	0	0	-	21	0	0	0%	
	2015/16	2	0	0	0%	24	0	0	0%	
	Total	4	0	0	0%	67	0	0	0%	
All levels	2013/14	14	0	0	0%	80	1	2	4%	
	2014/15	16	0	1	6%	72	5	2	10%	
	2015/16	14	1	0	7%	72	1	5	8%	
	Total	44	1	1	5%	224	7	9	7%	

Table 17 - Leavers by grade and gender between 2013/14 and 2015/16

Recommended word count: Bronze: 2000 words **2273 words**

5 Supporting and advancing women's careers

5.1 Key career transition points: academic staff

5.1.1 Recruitment

Academic managers discuss with HR job descriptions and person specifications to ensure fairness and equality before posts are advertised; panel compositions include at least one man and one woman. Quarterly, HoAU checks for completion of E&D training by all staff in the department (Section 5.2.1) which includes a section on Unconscious Bias. MS recruiters help compile a list of advertisement channels and networks, including those that target women (**Bronze action 3.5**). On request, unsuccessful candidates are offered feedback. Faculty postgraduate office ensures that interviewers of PGR applicants have completed the PGR selection training, including training on ED&I. Shortlisted candidates are invited to visit MS to meet potential colleagues, and see the department (**Bronze action 3.4**). Gender recruitment data are reported by HR to AUMG for monitoring and action.

Academic		Level 4		Level 5		Level 6		Level 7	
		M	W	M	W	M	W	M	W
2013/14 *part-time	Applied								
	Shortlisted								
	Offers								
	Appointed								
	SL/Apps (%)								
	Offers/SL (%)								
	Offer/Apps (%)								
	Appts/Apps %)								
2014/15	Applied								
	Shortlisted								
	Offers								
	Appointed								
	SL/Apps (%)								
	Offer/SL (%)								
	Offer/Apps (%)								
	Appts/Apps %)								

		2015/16							
Total ERE (2012/13 - 2015/16)	Applied								
	Shortlisted								
	Offers								
	Appointed								
	SL/Apps (%)	21%	35%	8%	6%	22%	0%	5%	14%
	Offers/SL%	40%	56%	59%	33%	25%		100%	100%
	Offer/Apps (%)	9%	20%	5%	2%	5%	0%	5%	14%
	Appts/Apps (%)	8%	19%	4%	2%	5%	0%	3%	14%

Table 18 - Job application and success rates by gender and grade

Through the review period, we have consistently had fewer applications from women than men (Table 18). However, application rates from women have improved since our bronze submission from 19% to 22% (in line with the national percentage of female PGR students), 5% to 19% and 6% to 16% at levels 4, 5 and 7, respectively, reflecting our targeted recruitment strategy. At level 6 the application rate fell slightly, 17% to 12%.

At level 4 women are more likely to be shortlisted than men and women are twice as likely to be appointed as men (Table 18). The origin of this higher success rate is not clear: we will review our selection procedures for fairness and equity (**Action 14**). At level 5 there is no significant evidence of gender bias in the selection process: the applications and appointments ratio at level 5 would have been the same if one more female lecturer had been appointed. Our policy has been to develop and promote the best internal candidate for senior posts. In the past three years we have promoted 4 men and 2 women at Level 6 and 2 men and 2 women at Level 7, section 5.1.3. Therefore, few posts have been advertised at Level 6 and Level 7. It is difficult to draw any firm conclusions.

“When I came for interview the academic staff were friendly, welcoming [...]. I came away with the impression that these were people I would enjoy working with” Level 5 (Female)

“The string theory group at Southampton University is the best group one can find in Europe not only in terms of quality of research but also in terms of human interaction.” Level 4 (Female)

We believe that attracting female applicants at all levels remains a key challenge. We will seek perception on recruitment processes from recent new recruits for improvements (**Action 15**), and we will promote inclusivity in advertisements by explicitly stating the availability of family friendly benefits, flexible working options and cover for childcare costs for interviewees (**Action 16**).

5.1.2 Induction

An induction checklist for new starters, including post docs, is provided by HR to the line manager. It includes an introduction to HR policies, role-related information and mandatory training such as ED&I, and health and safety. It has to be signed off by the new recruit.

In MS, objectives and priorities, including training, for new staff are agreed with the line manager and signed off. An additional senior colleague is assigned as a mentor. All staff are signposted to the MS intranet where the links to operational procedures and policies may also be found, section 5.4.1 (**Bronze action 5.4**).

New academic staff have reduced teaching and administrative duties (50% in the first year, 75% in the second), for research development and to engage with the University's Postgraduate Certificate in Academic Practice (PGCAP), section 5.2.1. All new staff are observed teaching by colleagues and provided with feedback. 74% felt "well supported in their current role, and [to] have sufficient mentoring and guidance" (2017 SS). 15% disagreed.

"On my first day I was introduced to quite a lot of people (including my mentor), so that I knew who to ask when I had questions" Level 5 Female

However feedback has identified some gaps:

"It would be helpful to have a clear pathway given, e.g. through an online portal, through which one could get the information. I assume that SUSSED and the Staff intranet are supposed to take this role, but I feel that the information there is not sufficient." Female

This last comment was echoed at the May meeting of DEDIC. We will improve the staff intranet and transform it in a single port of entry. New staff will be referred to it for information (**Action 17**).

All new members of staff are also invited to the University's induction programme arranged by HR and presented by a member of UEB. The programme provides an overview of University structures, main areas of activity and systems of support whilst providing an opportunity for networking (attended by 2 men and 4 women in 2015).

5.1.3 Promotion

Prior to the commencement of the annual promotion round, the Dean informs all staff of the University and Faculty-level procedures. Applications for promotion are reviewed by the Faculty Promotion panel. Shortlisted candidates for promotion to level 5 are assessed on submitted applications, whilst at level 6 and 7 candidates are interviewed. Applicants are encouraged to describe career breaks, flexible working and other individual circumstances. Faculty Promotions Panel decisions are moderated by the UoS Academic Promotions Advisory Group to ensure consistency across the University. At the conclusion of the process, Senate and Council ratify promotions.

We have taken action to ensure that all staff are aware of the University promotion process (**Bronze action 3.1**): the HoAU emails all staff about procedures and deadlines, and how to obtain support and mentoring. The introduction of a new online appraisal process in 2014 helps staff collating evidence about performance on their full range of activities (including administrative, pastoral and outreach work) which are taken into consideration as part of a portfolio that informs both the annual review and enables appraisers to identify people eligible for promotion to the HoAU. The AU promotions committee reviews all applications and provides feedback with suggestions for improvement before formal submission.

Staff		Level 5		Level 6		Level 7	
		M	W	M	W	M	W
2013/14	Applied						
	Review Panel						
	Interview Panel						
	Promoted						
	%successful						
2014/15	Applied						
	Review Panel						
	Interview Panel						
	Promoted						
	%successful						
2015/16	Applied						
	Review Panel						
	Interview Panel						
	Promoted						
	%successful						

2016/17	Applied						
	Review Panel						
	Interview Panel						
	Promoted						
	%successful						
All Years	Applied						
	Review Panel						
	Interview Panel						
	Promoted						
	%successful	0	0	70%	50%	66%	66%

(*) Part-time member of staff

Table 19 - Promotion applications and success rate by grade and year

Promotions from Level 4 to Level 5 are rare as most contracts are too short to allow them to occur (none happened in the current reporting period). The aggregate success rate for promotion for women and men during the reporting period is 4 out of 7 (57%) and 11 out of 16 (68%) respectively, and indicates no gender bias. Note that the difference in success rate at level 6 is not significant because of the small numbers involved. The average application rates over the reporting period are 33% for women and 18% for men. The difference, while apparently large, is not significant because of the small number of women involved so that the data is affected by repeated applications by one individual and random bunching.

“At the promotion interview I spoke for the first time to the highest university management. Although the interview itself was difficult I was made to feel comfortable and treated professionally and with utmost respect.” Level 7 (Female)

“The current promotion process, revised as part of the work on reward and recognition, very clearly recognises the contributions of academic staff towards teaching and service to the university, leadership and management and engagement.” Level 7 (Male)

Following Faculty workshops, staff’s understanding of the promotion process and criteria has improved significantly: 65% overall² (72% for Men and 71% for Women) in 2017 SS compared with 22% overall in 2014 SS. However, there is still a lack of clarity as 34% disagreed that they know exactly what is needed to obtain promotion. We will therefore continue to enhance awareness about the promotion process by: holding HoAU termly surgeries to provide guidance on promotions and career development (**Action 18**), publishing blog posts from staff members at all career stages who have gone through the promotion process offering tips and

² As some staff have not declared their gender, the overall percentage is not necessarily in-between the percentages for the two genders.

advice to staff (**Action 19**), and advertising University workshops on promotion criteria and process (**Action 20**).

CASE STUDY: The promotion process

"Well before the promotion process had started, there was a talk by a pro-vice chancellor where he gave a useful overview of the application process. While I was preparing my application, I met with our head of group who read my application several times and made valuable suggestions. My application was reviewed by a panel within our academic unit, who made further suggestions and constructive remarks. During the whole promotion process, everyone in our academic unit was very supportive while our head of unit kept me updated on my application status. I also enjoyed the faculty's initiative of meeting with an acting coach who gave useful tips on how to prepare for the faculty interview." Level 6 (Male)

5.1.4 Department submissions to the Research Excellence Framework (REF)

Staff	Not returned		Returned		Returned (%)	
	M	W	M	W	M	W
RAE2008	3	1	44	8	94%	89%
REF2014	3	1	50	9	94%	90%

Table 20- Head count return information for the RAE2008 and REF2014.

In both the RAE2008 and the REF2014 the only woman not returned was on the teaching pathway. The return rates for men and women indicate that there was no gender bias in either submission.

5.2 Career development: academic staff

5.2.1 Training

68% staff (73% of men and 71% of women) agreed that they are encouraged to take up career development opportunities [2017 SS] compared with 44% overall in 2014.

Staff development training is sourced and co-ordinated by Human Resources. Identifying personal development and training needs and recording training courses attended is a core component of the annual appraisal meeting. Staff select programmes from the online staff handbook. Table 21 lists a sample of the courses attended (gender split not available) while Table 22 shows the total training courses attended split by gender, level and year in MS. The percentage uptake by women is in line with the department's gender ratio. MS organises on-site training when a large number of staff need it, e.g. on unconscious bias.

Course	Number of attendees
Academic (ERE) appraisal half day skills workshops (for appraisers)	26
Briefing for Doctoral Supervisors: New landscape for PGRs	13
Developing Personal Academic Tutoring Skills	3
Examining the Doctoral Thesis	5
Excelling at Interviews for ERE staff seeking promotion to L6	6
Supervising Research Students	4
University Induction	5
New PCAP	6
PGCAP Cohort 1	11
Fellowship Interview Training	1
Getting Started in Teaching	2

Table 21 - Illustrative sample of UoS training courses attended by MS staff at all levels 2014/15-2016/17

Level	2014/15			2015/16			2016/17		
	M	W	W(%)	M	W	W(%)	M	W	W(%)
Level 4	12	0	0%	0	2	100%	9	3	25%
Level 5	12	8	40%	15	2	12%	11	4	27%
Level 6	15	6	29%	4	1	20%	20	4	17%
Level 7	36	1	3%	7	2	22%	22	4	15%
Total	75	15	17%	26	7	21%	62	15	19%

Table 22 - Number of non-mandatory university training courses attended by staff in MS, split by gender, year and level.

The HoAU monitors completion rate of staff ED&I training quarterly (currently 84% of all staff and 100% of all lecturing staff) and sends reminders to non-completers. University policy requires all new staff to complete ED&I training during the first six weeks of probation (section 5.1.2). This provision will be extended to all PhD students from 2017/18.

New staff must complete PGCAP to pass probation (section 5.1.2).

ECRs can attend generic skills training organised by the University. Most training is done in-house through regular seminar presentations and peer review of grant applications. In 2016 Science and Technology Facilities Council (STFC) funded careers workshop in which external speakers gave input on moving from academia to industry and applying for jobs outside academia, section 5.4.8.

“I received Interview training for postdocs applying for fellowships and permanent positions. This helped me perform to my best in the interview and I was successful in getting a Royal Society University Research fellowship.”

Postdoc

UoS’s plan (UoS AS Silver award application) to “develop a Leadership and Management Framework” is now complete. We explicitly encourage junior and mid-career staff to pursue targeted developmental opportunities. Opportunities for leadership training are also offered to staff at the relevant career stage by AUMG. Five members of staff, 4 men and 1 women, attended in the current review period:

“The Strategic leadership development programme was useful for networking with staff in other parts of the University.” Level 7 male

One woman’s request to attend a leadership training course was not met before she was promoted. AUMG will review all training requests after appraisal to ensure that they are met promptly (**Action 21**). Another woman, part-time, could not attend because the sessions were on days when she was not working. DEDIC will raise the attendance by part-timers with the University Athena SWAN team (**Action 22**).

5.2.2 Appraisal/development review

UoS established a new online appraisal system in January 2014 for all staff, including post-docs that records the previous year’s activity across teaching, research, enterprise and administration, achievements and development needs. Personal circumstances, future development plans and aspirations are also discussed and recorded. Appraisers provide guidance/support on career development as well as in readiness for promotion applications.

All staff are appraised only by trained appraisers; appraisees also are offered training. Appraisals are typically carried out by line managers, although staff can request an alternative appraiser, as did one staff member who was concerned about gender bias.

Appraisals are reviewed at a MS moderation meeting, comprising the MS promotion panel together with the HR Business Partner, followed by a mixed gender Faculty moderation meeting, established to ensure consistency, fairness and equity regarding the allocation of the ratings across the faculty.

Appraisal completion rates are monitored by Faculty HR with HoAU and reported to UEB. In 2015/16, 100% of MS staff across all levels were appraised.

73% overall (78% of men and 71% of women) agreed that “my most recent appraisal was useful in reviewing my workload, performance and future objectives.” [2017 SS]³ We will investigate the reasons why more than 20% of staff are not satisfied with appraisal and will feed back to the University (**Action 23**).

5.2.3 Support given to academic staff for career progression

MS encourages and supports staff at key transition points. Women at Levels 4-6 are encouraged to attend Springboard, a personal and professional development programme for women: in the current review period 2 women attended.

“Springboard made me stronger and gave me confidence.” Level 6 (Female)

The University Senior Leadership programmes are for level 6 and 7’s, section 5.2.1.

New staff at all levels are assigned a mentor who is a colleague other than the line manager (section 5.1.2). Formal mentoring options, within the AU or via the University scheme, are also discussed and encouraged at appraisal (**Bronze action 4.2**).

“I was assigned a mentor who was very helpful in advising me, most recently about research and grants rather than mundane things. He has been proactive about meeting with me to check how I am getting on, which is great.” Level 5 Female

At the discussion group, many people liked the idea of mentors and we will pursue this possibility for all staff (**Action 24**). Following a request by post-docs at MSB, we will set up a Post-Doc network to provide mentoring and support for its members (**Action 25**).

ECRs and FTC staff have the opportunity to discuss their career development and aspirations at their appraisal, and early career funding schemes are also identified during the process. Mentoring is provided within the relevant research group in order to write the best possible application (section 5.2.1).

Staff are offered the chance to deputise for their Head of Group at AUMG meetings for development and experience. The new procedures to apply for senior positions in the department (**Bronze action 3.7**, section 5.4.3) involve an expression of interest available to all staff. As depicted in Table 13, we can see proportionately more women beginning to progress through the pipeline.

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

The University has a Careers practitioner (F) and employability lead (M) explicitly linked to MS to guide and support our students. General career advice is offered by the University career services and also by PATs. Many of our UG students leave to go into employment (Figure 17). In the latest Destinations of Leavers from Higher Education (DHLE) results, 2015/16 (Figure 18), MS had a 9.9% increase on 2014/15 in number of students either in full or part-time study.

³ This is a new question in the 2017 SS. Comparable from previous surveys is not available.

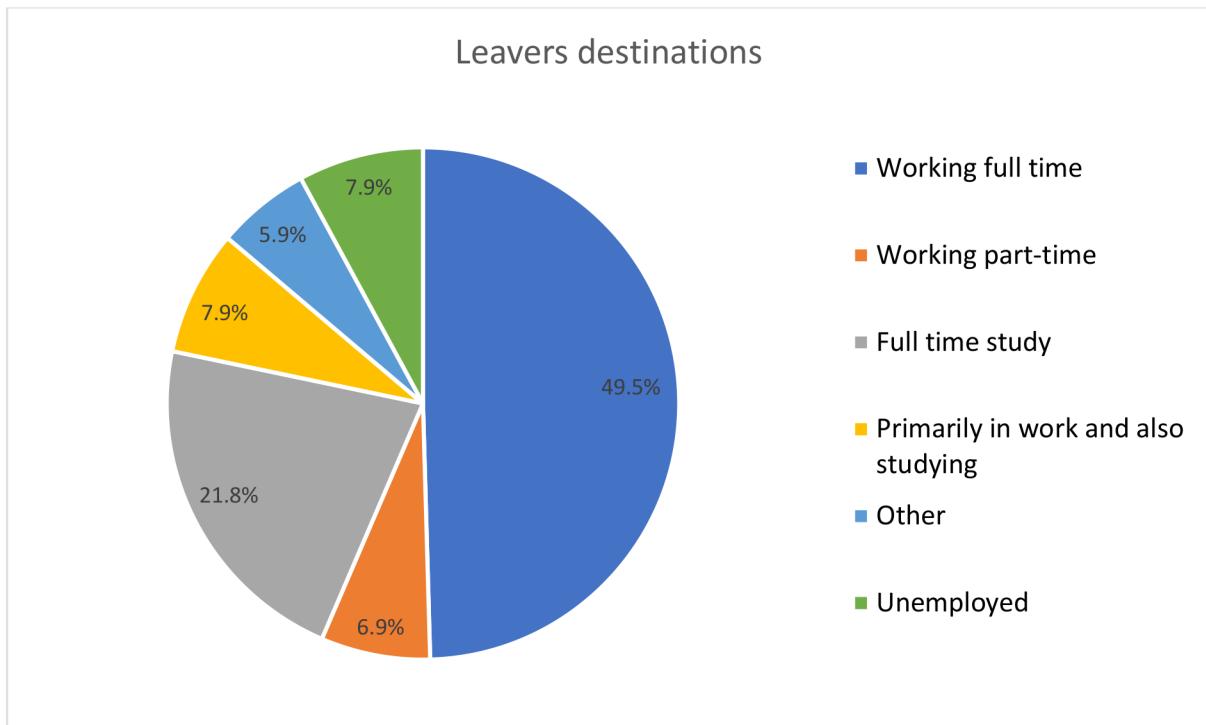


Figure 18 - Destination of undergraduates six months after graduation (% in each category). 2015-16 data.

MS students have exclusive access to their own Student Centre, a state-of-the-art learning and social space. It features interactive whiteboards, chalkboards, presentation equipment, a coffee area, and glass pods. The Centre is also used for revision workshops, events and meetings for clubs and societies.

The Maths Student Centre	
Group work in a Maths Centre 'pod'	A range of work spaces
Chalk and electronic boards	Coffee and social area

UG to PhD:

UG students are assigned a personal academic tutor (PAT) who oversees all aspects of their progression. Students can request a change of tutor, but such requests are extremely rare.

The PAT system has been revamped, with a particular emphasis on support for students in danger of under-achieving or failing to attend termly compulsory meetings. Moreover, drop-in workshops for students to get help with their work are run in the student centre: these are staffed by lecturers, PhD students and third and final year undergraduates, as appropriate.

“What I like the most is that my lecturers and professors always have their door open.” Female BSc Maths with CS

Most of our undergraduate students leave academia, but advice and support is given to students interested in applying for postgraduate courses at specific careers events (e.g. PhD open days), through class announcements and through the PATs.

PhD to postdoc:

All postgraduate students have a supervisory team of at least two people and an independent advisor. Students can request an additional female supervisor, but no request has been received in the review period.

The University provides a number of support services for postgraduate students and ECRs to complement the help provided by the University “First support” team, a service available to all students (UG, PGT and PGR). In particular, there is a central mentoring scheme for staff and postgraduate students, but the uptake is low and many students are unaware of this opportunity. In consequence, the DoPhD will advertise the university’s mentoring scheme to increase uptake by MS (**Action 26**).

PhD students work as demonstrators gaining teaching experience and training for an academic career.

“The quality of academic staff, each with their own style, is very high and their dedication to their students' success is inspirational. PhD student

The supervisory team advise PhD students on the possibility of becoming a post-doc. Advice can also be obtained from the DoPhD. In the case of fellowship applications, mock interview panels are set up (section 5.2.1).

5.2.5 Support offered to those applying for research grant applications

Support for applicants

Academics carry out (mandatory) internal peer review, participate in mock interviews and advise on e.g. the PI response to reviews. DoR offers individual advice, oversees internal quality control procedures and approves grant submissions. Training courses on grant writing were attended by 10 men and 1 woman, 9 permanent and 1 FTC, in the review period. The feedback was positive, with two participants saying that it helped in writing successful grant applications. We plan to be more pro-active in advertising such training courses to all members of staff, in particular at level 4 and 5 (**Action 27**). The few bids in MS that are subject to an internal expressions of interest stage receive formal feedback with suggestions for improvements.

When staff are unsuccessful in research bids, academic and professional services staff offer suggestions as to how to move forward. ECRs can be named on bids where this is permitted by funder rules. For example, we are happy to support PhD students to apply for fellowships at the end of their studies.

Grant application data by gender

	Men	Women
Applications per person as PI	1.46	1.10
Awards per person as PI	0.27	0.29
Success rate as PI	23.5%	33.3%
Average bid value as PI	£319,077	£420,218
Average award value as PI	£214,710	£154,768
Applications per person as Col	0.55	0.22
Awards per person as Col	0.20	0.07
Success rate as Col	46.7%	50.0%
Average bid value as Col	£1,112,031	£1,533,665
Average award value as Col	£449,667	£1,043,153

Table 23 - Research grant application data totals for applications submitted by Principal Investigator (PI) and Co-investigator (Col) in the period August 2014 to September 2017.

The grant application data in Table 23 suggest that women are slightly less likely than men to apply for grants as PI and slightly more successful in obtaining them. The figures suggest that women are successful in research bids, and ambitious in the bids that they make, but that awards to women tend to be lower in value, which points to a possible effect of systematic bias in external grant award processes. Women are only 40% as likely as men to be included as co-investigators (Col) on grant applications, which suggests that informal internal research networks are not working as efficiently for women as for men. We will introduce regular reminders to staff to consider all other relevant staff when selecting co-investigators (**Action 28**). We will continue to monitor the split of grant bids and awards by gender (**Action 29**), and will ensure that members of staff involved in appraisal and promotions are aware that women may be affected by biases in external award processes (**Action 30**).

5.3 Flexible working and managing career breaks

5.3.1 Cover and support for maternity and adoption leave: before leave

In addition to statutory maternity pay, we offer an enhanced maternity scheme: up to 26 weeks of additional maternity at their contractual pay for all levels of staff with a minimum of one year's service and 52 continuous weeks on their return.

Managers and staff have access to the policies on the intranet, with further guidance available on the UoS ED&I and the Parent and Carers network websites. Updates and support is provided from the Faculty based Business Partner.

We only had two cases of maternity and adoption leave since our last submission. Prior to leave staff meet with their line manager to discuss handover, communication during leave and return to work options. Fixed Term contract staff have often been disadvantaged in relation to maternity leave. However the UoS plans (UoS AS Silver award application, Action C4.e)-c4.h)) to “revise contractual maternity policy to address the negative impact on FTC staff”.

5.3.2 Cover and support for maternity and adoption leave: during leave

Cover is normally provided by colleagues, in the same way has done for sabbatical leave. UoS operates policies for ‘Keep in Touch’ days (KIT) days: 10 optional days available to staff on maternity or adoption. Shared Parental Leave may be taken for up to a maximum of 20 split days each. Arrangements are made in advance of leave in agreement with the line manager.

Birth and adoption announcements are circulated and new parents are encouraged to visit the department socially, if they wish. Colleagues on leave are informed by email of ongoing changes within the AU and invited to any social events.

“It was nice to receive invitations as they made me feel still part of the department.” Maternity returnee

No work-related requests are sent to colleagues who are on leave.

5.3.3 Cover and support for maternity and adoption leave: returning to work

Prior to returning, the line manager meets with the returnee to discuss support and agree work patterns e.g. reduced hours temporarily to ease the transition. Faculty policy requires that all returnees can bring forward their next semester period of study leave to be taken immediately upon their return to work. This has been applied very recently (this summer) and it is working very well.

“To say the least, the study leave gave me an opportunity to spend more time with my PhD students and catch up on research that I missed during my maternity leave.” Maternity returnee

A key action was to provide facilities for nursing mothers (**Bronze action 6.6**): all permanent staff have their own offices, should they wish to use them; we also have a large newly refurbished staff room, where kitchen facilities (including a fridge), social space and childrens toys are available. We advertise on the MS intranet all family friendly policies (**Bronze action 6.1, 6.2**) with links directly to the relevant University web pages, support networks and facilities, including the childcare voucher salary sacrifice scheme. The Parent and Carers Network offers support from other parents, e.g. the sharing of school drop-offs.

In the focus groups, staff and PhD students discussed if carer support could be given in specific circumstances: in emergency, when travelling. AUMG is considering nominating for each module a stand-in lecturer who would cover lectures in cases of an emergency (**Action 31**).

We will evaluate the experiences of staff who have returned from leave to see where we can add support. (**Action 32**).

5.3.4 Maternity return rate

Since our last submission we have had two maternity leave cases, both at level 5. At the time of writing, one has just returned, the other accepted a job offer at similar level at another institution while still on leave.

5.3.5 Paternity, shared parental, adoption, and parental leave uptake

The low overall numbers of formally recorded paternity leave precludes a discussion of trends. To the best of our knowledge, all those who were entitled have taken their full paternity leave either at birth or shortly after (2M).

We offer a maximum of two weeks partner leave on full salary regardless of marriage status to anyone employed with us for 12 months; otherwise, statutory pay applies.

Shared parental leave has replaced the additional paternity leave entitlement. There have been no cases of shared/parental leave and no case of adoption leave.

5.3.6 Flexible working

Flexible working is available to all staff, including post-docs subject to grant restrictions. Three staff (2 female, 1 male), all on open-ended contracts, currently work reduced hours for family responsibilities.

All line managers are trained in managing flexible working patterns. Following discussion with their line manager, individuals make a formal request for changing work patterns. This has to be approved by the HoAU and the Dean. We have no record of any refusals.

Informal flexible working patterns are discussed at induction and agreed with the line manager: they take many forms, for example starting late or leaving early because of caring duties. During teaching time staff are formally allowed to blank out five hours each week; informal requests are dealt with sympathetically, within the constraint of the university timetabling system.

There has been an improvement since the last review period: Overall 66%, (70% of Men and 57% of Women), previously 28% overall, agree that “my line manager is supportive of requests for flexible working”. [2017 SS] However, these percentages are still small. Moreover, only 33% of Men and 29% of Women said that “there is adequate provision for staff with flexible working and caring responsibilities.” We will explore with staff what issues need addressing for flexible working (**Action 33**), but informal discussions indicate that many of the issues are caused by the University timetabling system and the lack of teaching spaces. The University is aware of this and representations are made regularly to the University Executive Group, but it is unlikely that this problem will be addressed more comprehensively until a new teaching block is built (completion by start of 2019/20). The weight of this external effect is evidenced by the fact that 85% of Men and 100% of Women said “I feel that Mathematical Sciences cares about my work life balance and overall wellbeing”. None disagreed, 9% Men were unsure. [2017 SS].

5.3.7 Transition from part-time back to full-time work after career breaks

No member of staff has increased their hours in the reporting period.

Staff make a formal request to increase their hours to full-time, following a discussion initially with their line manager. Requests from open-ended contract staff would require consideration and approval by HoAU prior to ratification at AUMG.

We plan to ask staff with caring responsibilities whether there are any work-place constraints that restrict the choice of returning to full-time work after career breaks. (**Action 34**).

5.4 Organisation and culture

5.4.1 Culture

David Hilbert, one of the greatest mathematicians of all times, wrote:

“Mathematics knows no races or geographic boundaries; for mathematics, the cultural world is one country.”

This quote, inscribed in our building, is the aspiration of our department. The Athena SWAN award has forced us to think more carefully about this aspiration, our policies and procedures, but also ourselves.

ED&I is one of the only four committees in the department; senior management is committed to it and ED&I is now a regular item on AUMG agenda; ED&I is part of the induction of all students; all staff receive training which includes unconscious bias and regular updates on ED&I at MSB.

In response to request for better **Communications** we have:

- an intranet with links to operational documents (travel forms, policies), support (harassment contacts, networks), information (HR policies, departmental updates), services (mentoring, training), DEDIC (**Bronze action 5.4**).
- an ED&I webpage (**Bronze action 5.3**) with links to info on parental leave, flexible working policies, and networks (**Bronze action 6.1**), and with the facility to provide anonymous feedback to the chair of DEDIC.
- All staff email list for Information, news, fellowships etc.
- A lockable anonymous suggestion box is placed in the (accessible to all) post-room.
- A Maths-Blog for staff to share their thoughts and provide feedback.
- ‘Maths Matters’ blog for students as a platform to discuss events, opportunities and other student news.

We have been proactive in **promoting an inclusive culture**:

- 83% overall (85% men and 100% women) said “I am aware of the available opportunities to represent my academic unit internally/externally” 2017 SS.
- We have provided a welcoming environment for our students, the MS Student Centre, section 5.2.4, and refreshed common room for staff, used for social events.
- Coffee-time events are held to introduce new starters and for all staff to network.

“The coffee-time event where Jon introduces each new starter is a nice idea, and made me feel welcome.” Level 5 female

“More generally, there is a friendly environment in the department, and I have always felt able to ask others if there is something I do not know.” Level 6 male

- We run twice yearly “Random Walks”, open to staff, visitors and PhD students. They consist of a countryside walk with pub lunch and are an opportunity to spend time with colleagues away from the University.

Date	Men	Women	%Women
April 2017	21	9	30%
July 2016	9	3	25%
April 2016	14	7	33%
July 2015	7	4	26%
April 2015	21	6	18%

Table 24 - Attendance to latest Random Walks

In the staff survey, none of the women felt they had experienced sexual harassment, but 3 out of 5 respondents had “felt uncomfortable about gendered banter which their male colleagues found amusing but which [they] did not”. We will check whether there have been other occurrences in one year’s time and address those issues on a more case-by-case basis (**Action 35**). The University is planning to organise a programme of training events on equality, diversity and inclusion awareness. DEDIC will advertise these to all staff; they will be mandatory, as appropriate, for staff in leadership roles (**Action 36**).

We work with the Faculty ED&I committee to highlight the university’s policy of zero tolerance to harassment, discrimination & victimisation. We are pro-active in securing EPSRC funding under the “Inclusion Matters” call to train senior staff, as the change has to be led from the top. Even if the bid is not successful we are going to ask the Dean to support such workshops

All in all, 70% (previously 33%) of all staff (73% Men, 71% Women) said “I feel MS is a great place to work for women” and 87% (previously 47%) of all staff (91% Men, 86% Women) said “I feel MS is a great place to work for men” (2017 SS).

5.4.2 HR policies

The HR Business Partner is involved in the application of policies and procedures to ensure consistency and provides monthly updates. For example, the implementation of the new Shared Parental Leave Policy was communicated at an MSB with an opportunity to arrange a meeting with HR to ask questions and seek clarification. In the 2017 SS, 79% of staff (76% of men and 86% of women) agreed with the statement “I am kept informed about gender equality matters that affect me.” The communication channels discussed in section 5.4.1 will provide an even clearer information about gender equality policies.

MS abides by the University’s ED&I policies. There have been no formal complaints of bullying or harassment nor any formal disciplinary procedures in the AU during the review period. The 2017 MS SS reported that 79% of men and 80% of women, previously 40% overall, were “confident that my manager would deal effectively with any complaints about harassment, bullying or offensive behaviour”. However 3 men and 1 woman disagreed. While these figures are relatively positive, we will make representations to the University to provide additional training for managers on ‘how to manage’ complaints and we will require all line managers to attend them (**Action 37**).

Staff can also discuss ED&I issues directly with the DEDIC chair and a Faculty ‘Harassment Contact’ from outside the AU. All contact information is on the intranet.

5.4.3 Representation of men and women on committees

AUMG	2014/15	2015/16	2016/17
Chair	Man (HoAU)	Man (HoAU)	Man (HoAU)
Men	8	7	5
Women	1	2	4
Total	9	9	9
Percentage Women	11%	22%	44%
AUPB(*)	2014/15	2015/16	2016/17
Chair	Man (DoP)	Man (DoP)	Man (DoP)
Men	13	13	14
Women	2	2	1
Total	15	15	15
Percentage Women	13%	13%	7%
SSLC(**)	2014/15	2015/16	2016/17
Chair/Co-chairs	Man (DoP)	Man (DoP) and Woman (student president)	Man (DoP) and Woman (student president)
Men	13	13	14
Women	2	2	1
Total	15	15	15
Percentage Women	13%	13%	7%
DEDIC/Athena-SWAN (***)	2014/15	2015/16	2016/17
Chair	Woman	Woman	Man
Men	3	3	8
Women	4	4	3
Total	7	7	11
Percentage Women	57%	57%	27%
(*) Academic Unit Programme Board is in charge of all teaching in MS.			
(**) Staff-Students Liaison Committee is a forum for students and staff to discuss issues related to any of the degree programmes or modules offered by MS.			
(***) The Athena-SWAN committee changed name to Departmental Equality, Diversity and Inclusion Committee in Autumn 2017.			

Table 25 - Gender balance of staff on MS committees. All committees except AUMG have also student representatives.

Of great significance are the increased number of women in AUMG and of men on DEDIC (Table 25): the first aims to embed a change of culture in the department, the second emphasises that ED&I are not just “women issues”. There is a very large overlap in the membership of AUPB and SSLC: their gender ratio are in sync with the departmental ratio.

Academic staff representatives do not normally have a term of office, but stand down when on sabbatical (one semester every four years) and usually do not return.

In the past AUMG membership was allocated by AUMG. The new MS policy (**Bronze action 3.7**) is that the HoAU invites expressions of interest from all staff and provides the opportunity to discuss the role with them before applying. This policy applies to all positions with the exception of: the HoAU who is nominated by the dean normally for a period of three years; the chair MSB who is elected by all staff every two years and the DoP, a post that was advertised externally. To provide leadership experience to early and mid-career staff, HoGs offer them the opportunity to deputise at AUMG (**Bronze action 5.2**).

5.4.4 Participation on influential external committees

Many staff sit on external panels or steering committees, e.g. of research councils either in the UK or the EU, or of learned societies like the LMS or the Institute of Mathematics and its Applications. Some have government advisory roles: for example, Professor Marika Taylor serves on an advisory panel to the Danish Ministry for Science.

For the period under review we do not have sufficiently detailed records of participation by gender on committees external to UoS. A new University-wide software system, PURE (introduced in March 2017), should allow us to keep track of it so that it is better included in the promotion and appraisal processes (**Action 38**).

5.4.5 Workload model

Following feedback from the 2014 bronze application and requests from staff, AUMG have developed a comprehensive workload model that aims to be transparent and fair, so that staff feel that all their work is recognised, including admin and management roles. The list of tasks is detailed, available on the intranet together with their corresponding loads, which were determined in consultation with staff. The workload model will start from 2017-18 and we will monitor its effectiveness, fairness and transparency annually by asking feedback from staff and deciding any changes at AUMG. (**Action 39**)

5.4.6 Timing of departmental meetings and social gatherings

70% overall (76% of men and 57% of women) agreed that “Meetings and events are completed in core hours” (between 10am and 4pm) in the 2017 SS compared with 33% overall in the 2014 SS.

We have established a core hours policy for emails, research meetings and seminars (**Bronze action 6.3**): (i) replies to emails should be expected only in working hours; (ii) all MS meetings and events should be scheduled within core hours; (iii) departmental meetings should not be always on the same day of the week, if possible, in order to allow participation from part-time staff (**Bronze action 6.4**). Seminars are usually between 12.00 and 15.00. We will introduce a system of monitoring compliance (**Action 40**).

Staff social activities range from short coffee-time or lunch-time events, to early evening socialising with students, to full day events like the random walks. Where appropriate, e.g. random walks, Christmas party, quiz nights with students, staff are welcome to bring their children. “Social events are considered to be welcoming to both men and women” by 94% of men and 86% of women (2017 SS).

5.4.7 Visibility of role models

Female staff are regularly engaged in public speaking: Professor Rebecca Hoyle gave the Mary Cartwright lecture at LMS, an event giving prominence to women mathematicians. Professor Marika Taylor talks at New Scientist Live events, podcasts for the Guardian, has been interviewed by the BBC and has taken the lead on an international network for women in theoretical high energy physics; in one of the yearly Ada Lovelace Day events organised by MS, Dr Honora Smith talked to students and staff on what inspired her towards a career in mathematics (and about her great-great-aunt, Ada Lovelace); Ms Vesna Perisic, a Senior Teaching Fellow, is on its steering group of WiSET (Women in Science, Engineering and Technology) and advertises their events in MS: seminars, careers and networking events and the annual Campbell lecture. Photos of a wide diversity of students and staff are displayed in the Maths building and in the Student Centre and are used in our literature and on our web site.

Seminar series	2014/15			2015/16			2016/17		
	M	W	%W	M	W	%W	M	W	%W
S3RI				24	2	8%	19	3	14%
MSc Stats	8	3	27%	12	8	40%	12	12	50%
Applied	18	3	14%	9	6	40%	10	3	23%
Gravity	22	6	21%	22	4	15%	16	3	16%
Pure Colloquium	17	4	19%	18	2	10%	16	7	30%
Pure Seminars	11	1	8%	11	0	0%	10	2	17%
Topology	3	2	40%	3	1	25%	15	5	25%
CORMSIS	18	3	14%	16	1	6%	11	2	15%
Total	97	22	18%	115	24	17%	109	37	25%

(*) S3RI – Joint Statistics-Social Sciences seminar series

(**) CORMSIS – Joint Operational Research and Management seminar series.

Table 26 - Gender representation of our external speaker seminar series.

We have improved the gender balance of speakers at the MS seminar series (**Bronze action 5.5**, Table 26). DEDIC sends regular reminders to ensure mixed-gender selection of speakers to seminar organisers.

5.4.8 Outreach Activities

The UoS Mathematics Outreach programme is led by Professor Tim Sluckin and Dr Ben Parker (level 7 and 5 respectively) from MS and Ms Ruth Edwards from Education. In collaboration with many colleagues and students they run various events and workshops for students at all ability levels and a selection of ongoing annual events (Figure 19). We try to ensure that female staff and students are present at all major outreach events. Outreach activities are recognised in appraisals, promotions and in the workload model. One key observation from the UoS Mathematics Challenge is that there is a clear difference in performance between state-founded and public schools, independently of gender. To partly counter this, we have secured STFC funding (section 5.2.1) for public activities that target students with no family university education and for master classes for girls, starting from 2017-18 (**Action 41**).

University of Southampton Maths Challenge

The Cipher Challenge: over 700 UK schools and colleges participate.

In 2016/17 7,130 students participated (42% women).

Over 1000 Year 8-10 students participate in the UoS Mathematics Challenge. In 2016/17 there were 66 winners (56% female).



Lectures in Schools

A team of 7 people (5 men and 2 women) participated in the Royal Society Summer Science Exhibition

Staff and PhD students (50-50 men and women) give mini lectures and careers talks in schools and colleges.



Other activities include: the Science and Engineering festival and Pint of Science.

Figure 19 - A selection of our ongoing outreach activities

Recommended word count: Bronze: 6000 words | Silver: 6500 words **6,119** words

6 Further information

New project at international level.

Professor Marika Taylor was awarded an EPSRC Impact Acceleration grant to run this year's workshop on Women in String Theory. Following the success of this activity, Professor Taylor has taken the lead on an international network for women in theoretical high energy physics. The network will now be hosted by and will receive funding from CERN. They will advise the CERN theory division on ED&I.

This network is developing a web resource on diversity issues hosted by CERN; collecting international data on gender ratios at all staff levels, amongst conference speakers, membership of editorial boards etc. and presenting the data at leading international conferences. The quantitative data analysis will be followed by a large international survey of culture within the research field and a study of career progression. The latter will involve approximately 30 interviews with female professors in the field, exploring the hurdles they have faced and what can be done to improve the culture within the field.

ED&I in MS

The Faculty ED&I committee is promoting gender alongside other axes of identity (such as race, sexuality, disability) across the faculty.

We aim to work with them to increase the numbers of people who disclose equality data via the UoS equal opportunities forms. At AU level this may cause issues of privacy, in view of the small samples involved, but this would be less problematic at Faculty level and would allow us to get a better picture of diversity within the Faculty and, indirectly, in MS.

We hope to be able to identify if certain women or men may struggle to be appointed or progress in their careers and whether they find our workplace culture unwelcoming.

In the longer term, we want to work to ensure that other aspects of identity are taken into consideration alongside gender.

Recommended word count: Bronze: 500 words | Silver: 500 words **303 words**

7 Action plan

7.1 Action plan for 2017 bronze renewal application

The actions are split into groupings that refer to the main group of stakeholders in the department that will be affected by them. All actions are colour coded for priority, with red (highest), amber and green (lowest). The intention is to accomplish all actions, but to dedicate more resources to those with higher priority.

The Self-Assessment Team						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
1 Page 11	Improve the gender balance of student reps on DEDIC.	All student reps on DEDIC are women.	Emphasise in requests for expression of interest that ED&I issues affect all genders.	Chair of DEDIC	November 2017 (selection of new PGT representative)	Mixed gender of DEDIC's student members.
2 Page 11	Ensure that gender equality and inclusivity is at the heart of every decision the AU.	Need to ensure that AS goals, values and objectives are both understood and considered by all MS Committees and that all sections of MS are involved in implementing the AS action plan.	ED&I and relevant AS actions will be a standing item on the agenda of all AU Committees (at least once a month for AUMG and at every meeting for the other committees).	HoAU responsible for AUMG; DoP for SSLC and AUPB.	From Spring 2018	ED&I is an agenda item on all MS Committee meetings.

The Self-Assessment Team						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
3 Page 11	Ensure an effective and equitable sharing of the implementation of the AS action plan.	We need to deliver AS action plan in a manner that will enhance staff engagement in ED&I issues and enable sharing of workload. All MS committees must be involved in the delivery of the AS action plan.	Representatives of MS committees on DEDIC will be responsible for monitoring and implementing any action that falls in their committee remit. DEDIC as a whole will gather data and monitor the implementation of the actions, to be analysed at each DEDIC meeting.	DEDIC Chair and appropriate members.	From December 2017 to 2021	Successful implementation and delivery of the AS action plan.
4 Page 11	Maintain a constant feedback loop between DEDIC and staff on ED&I issues.	Only a fraction of staff are on committees. We aim to make all staff aware of steps they can take to improve ED&I in the department.	Key ED&I information will be disseminated to staff at MSB, in the MS blog page, the DEDIC web site and in conversation cafes. All these fora offer possibility of feedback to DEDIC.	DEDIC Chair	From December 2017 to 2021	Regular blog entries.

Attracting and supporting UG students						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
5 Page 14	Increase the numbers of women on our UG programmes	There has been a steady fall in the proportion of female undergraduates and we are now below the average for female students in Mathematics Department in Russell group universities	We will review the admission procedures for fairness and equality, and report to AUMG and DEDIC each year Review and discuss with Marketing all publicity, online and printed materials, to ensure gender neutrality in all material for all our UG programmes Equal participation of male and female student helpers at visit days. Staff participation taken into account in the workload model.	Head of admissions	From December 2017 to 2021 annually. January 2018 to 2021 annually. January 2018	Increase the percentage of UG female students from 33% to 37% by 2021/22 with the longer term aim of exceeding the national benchmark (40%). Marketing materials are gender neutral

Attracting and supporting UG students						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
6 Page 14	We will follow up with those women who receive but do not accept our UG offer to understand any issues.		Seek views of staff and students on effectiveness and on any issue identified in talking to applicants.	Head of admissions	February 2017 annually	Develop a better understanding of student perceptions and address any issues to improve the acceptance rate by 20%
			Focus groups with 1 st year female UG students to find out how to attract more female applicants to our UG programme. Survey of applicants (of both genders) who have not accepted our offer.		September 2017 September 2018	
7 Page 16	We will investigate if there is any further form of support that might help reduce the gender performance gap.	The difference in first and upper second degrees between the female and male UG is small (71% and 70% respectively), but we would like to address it.	Analyse assessment to see if there is a particular aspect of it where the male-female performance is significantly different.	DoP	June 2018	Reduce the male-female attainment gap by 20%.

Attracting and supporting PGT students						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
8 Page 17	We will check whether it is possible to obtain relevant benchmarking data for our PGT programmes.	Our PGT programmes are not generic. We will explore alternative avenues for e.g. the Royal Statistical Society	Enquire with the Royal Statistical Society and with Operational Research Society.	Heads of PGT admissions	April/May 2018	Compile suitable benchmarking data.
9 Page 17	Ensure an equitable gender balance across PGT programme.	PGT provision has become equally attractive to both men and women, The spike in 2016/17 for entrants will be investigated and monitored to ensure this is not a trend.	We will review the admission procedures (including online and printed publicity) for fairness and equality and report to AUMG and DEDIC each year.	Heads of PGT admissions	Annually starting February 2018	Ensure gender balance is maintained on our PGT courses at around 50% by 2020

Attracting and supporting PhD students						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
10 Page 21	Survey the PGR applicants who decide not to come, to see if there are any specific issues that need addressing.	We aim to improve on number of PGR applications from female UK applicants	<p>Focus groups with 1st year female PGR students to find out how to attract more female applicants to our PGR programme.</p> <p>Phone or email interviews with PGR applicants who do not accept our offer.</p>	DoPhD	Annually starting in November 2018	Develop a better understanding of student perceptions and address any issues to improve the acceptance rate by 10% by 2020.
11 Page 21 & 23	Target better our best UG students to continue in academia	In order to increase nationally the number of female PGR students we need to convince our own female undergraduates that a PhD is a viable and rewarding career option.	<p>Run focus groups with UG students to encourage female UGs to pursue a postgraduate degree.</p> <p>Event to showcase PGR research to current 3rd year UGs promoted by tutors.</p> <p>Encourage UG students to take a summer project.</p>	DoPhD	Annually starting November 2017	Increase the uptake of female UG who apply for a PhD (not just at Southampton) by 20% by 2020.

Recruitment and induction of new staff						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
12 Page 28	Encourage and develop career progression at junior levels and in particular encourage female researchers to apply for fellowships	As part of our effort to stem the leaky pipeline from level 4 to level 5	Plan to introduce yearly reminders to post-docs including any training courses on interview and grant writing techniques on offer at University level.	DoR	Annually: September and January	Improve attendance level by post-docs by 20%. All staff to attend at least one career development workshop or event (evident from appraisal from 2018)
13 Page 29	Gain a better understanding of the issues that cause staff to leave MS at the UoS.	We are unable to develop any substantial commentary about departing staff, due to the absence of exit interviews.	We will develop and implement exit interviews and assess information provided by a new UoS online exit survey in 2017.	HoAU to ensure interview procedure is set up. HoGs to ensure that the interviews take place. FOS to send reminders.	February 2018	A process that collates exit interviews and reports any concerns to AUMG.
14 Page 31	Ensure no gender bias at levels 4 and 5 in recruitment process	Women are twice as likely to be shortlisted and appointed than men	Review our selection procedures for fairness and equity	HR Chair of DEDIC	December 2019	Report to AUMG if any issues identified on fairness of the recruitment process for action

Recruitment and induction of new staff						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
15 Page 32	Need to improve the numbers of women applying for jobs.	Attracting female applicants at all levels remains a key challenge	We will seek perceptions on recruitment processes from recent new recruits for improvements. We will also ask the views of candidates who did not accept an offer. To ensure anonymity this survey will be carried out by an external agent and only if numbers are sufficiently large.	Chair of DEDIC HR	February 2018 December 2018	Job applications by women increased by 10% by 2020 or at least sector average percentage of female academic staff
16 Page 32	Promote inclusivity in advertisements to attract candidates	To attract more applications from a diverse range of candidates and improve the talent pool.	Specify family friendly policies in job advertisements e.g. flexible, part time etc. AS logo. Make links to MS and University ED&I web sites.	HoAU Chair of DEDIC	February 2018	All new job adverts include ED&I information e.g. part time opportunities, flexible working by 2019

Recruitment and induction of new staff						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
17 Page 32	Provide a single online port of call for policies and procedures in the department, including ED&I issues.	Staff accept information is available on the staff intranet but improvements are required.	Ensure that updates to policies and procedures are posted on the staff intranet.	HoAU, DoP, DoPhD, DoR, DEDIC for their respective areas.	Summer 2018	Improved staff satisfaction results on quality of availability of information in staff surveys to at least 80%.

Career progression						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
18 Page 34	Plan HoAU termly surgeries to provide guidance on promotions and career development.	Enhance awareness and provide expertise about the promotions process to staff.	HoAU offers tips, guidance and advice to staff who may be unsure of processes and expectations.	HoAU	October 2018	Improved staff satisfaction on quality of advice for promotion in staff surveys and focus groups from 65% to 80% at least by 2020.
19 Page 35	Publish blog posts from staff members at all career stages who have gone through the promotion process offering tips and advice to staff	Additional advice and support to new candidates applying for promotions.	Assemble material for site e.g. blog posts from staff members at all career stages and offering tips and advice	Chair of DEDIC for reminders to newly promoted staff. Staff for posting.	October 2018	

Career progression						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
20 Page 35	Improve clarity of promotion process by advertising UoS workshops on promotion criteria and procedures.	Survey and focus groups indicated a lack of understanding of the promotions process.	Advertise workshops on career pathways and the promotion process for all levels and types of contracted staff.	HoAU/FOS	Annually starting from October 2018.	
21 Page 37	Improve training opportunities to help women's transition through the career pipeline	One woman's request for training had not been met in a timely manner.	AUMG will review all training requests after appraisal to ensure that they are met promptly.	HoAU	Annually starting June 2018	All staff requests for training are met promptly (within the availability of training) following appraisal.
22 Page 37	Improve training opportunities to help PT staff transition through the career pipeline.	A part-timer had reported that she could not attend because the sessions were on days when she was not working	DEDIC will bring the problem of attendance by part-timers to the attention of the University Athena SWAN team.	Chair of DEDIC	April 2018	Report to University Athena SWAN team. Pressure for further action.

Mentoring and appraisals						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
23 Page 38	Understand better concerns by some members of staff about the appraisal process.	More than 20% of staff are not satisfied with appraisal. We need to understand these concerns and feed them back to the University.	Discuss with staff either individually or at MSB issues with appraisal.	Chair of DEDIC HoAU	April 2018	Report to University Athena SWAN team. Report to Faculty Executive Group. Pressure for further action.
24 Page 38	Explore and develop mentoring opportunities within the AU and across the University for all staff.	At the discussion group, many people liked the idea of mentors.	Establish a working group to identify what staff want or need for mentoring. If enough staff request it, set-up and promote AU-wide mentoring scheme. Ensure training for mentors.	HoAU	July 2019	Identify needs and possibly set up an AU mentoring scheme or make wider use of the University mentoring scheme.
25 Page 38	Set up a Post-Doc network that will provide mentoring and support for its members.	Post-Docs specifically requested a mentoring support in the discussion group.	Consult Post-Docs to establish what kind of mentoring would be most effective.	ECR representative on DEDIC	February 2018	Survey of post-docs completed. Post-docs mentoring scheme set up and fully functioning by 2019.

Mentoring and appraisals						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
			Setup a post-doc mentoring scheme.		October 2018	
26 Page 40	The DoPhD will advertise the university's mentoring scheme to increase uptake by MS PGR students	The focus group revealed that many PGR students have been unaware of this opportunity.	The Post-Graduate research coordinators of each group will mention the mentoring scheme at induction. They will also refer to it any students who they think may be particularly helped by it.	DoPhD	Annually in November	Increased PGR awareness of the University mentoring scheme to at least 50%.
27 Page 41	Enhance career development training courses for Post docs and ECRs	Feedback was positive from staff who attended courses. Need to improve women's transition through the pipeline	Advertise courses such as grant writing to all members of staff, in particular at level 4 and 5.	DoR	Set up by March 2018 and run annually thereafter.	Yearly rota of training courses set up. Attendance of courses monitored and compared with success rate for grant applications.

Support offered to those applying for research grants (*)						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
28 Page 42	Ensure that women have equal opportunity to act as co-investigators on grant bids.	Grant application data suggest women are much less likely than men to be included on grant bids as co-investigators.	Introduce annual reminders to all staff to actively consider all other relevant staff as co-investigators when writing grant applications.	DoR	Annually, starting January 2018	Approximately equal number of applications as co-investigator for male and female members of staff over the next reporting period.
29 Page 42	Monitor the split of grant applications and awards by gender.	To assess whether women and men in MS bid for research funding at similar rates and have similar success rates.	Monitor grant applications and awards for any gender imbalance.	DoR Finance	Annually, as part of the research finance planning cycle.	Data are collected and analysed annually.
30 Page 42	Ensure staff involved in appraisal and promotion are aware of possible systematic bias against women in external grant awards.	To ensure that the career progression and job satisfaction of women academics is not adversely affected by possible external biases in grant award processes.	Inform all staff involved in appraisal and promotion of current grant application data and any evidence of external biases.	DoR, HoAU	Annually prior to the promotion process round.	Relevant staff members are informed. Women are satisfied with support offered during appraisal and promotion processes.

(*) See also Action 27 above

Support for caring responsibilities						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
31 Page 43	Consider nominating for each module a stand-in lecturer who would cover lectures in cases of an emergency.	Current arrangements in an emergency are ad-hoc and rely on the good will of colleagues. A more formal support scheme would make dealing with an emergency more straightforward.	Devise a process to ensure all lecturers have a standby for eventualities like a caring emergency or a health problem.	HoGs	September 2018	Stand-in lectures are nominated for each course every year. The timetabling system takes into account of the teaching commitments of both lecturers and their replacement by 2019.
32 Page 43	We will evaluate the experiences of staff who have returned from maternity leave to see where we can add support.	The very few staff who have taken maternity leave are happy with the current arrangements. We need to check that this is always the case and to provide improved support if needed, e.g. in transition from PT to FT hours after a career break.	Interview staff who have taken maternity or adoption leave in order to evaluate their experiences Interviews with staff who have decreased or increased their hours following career breaks.	HoAU	January 2019	Maintain high level of satisfaction in staff interviews. Report to AUMG if any issues identified for action.

Support for caring responsibilities						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
33 Page 44	We will explore with staff what issues need addressing for flexible working.	Only 33% of Men and 29% of Women said that “there is adequate provision for staff with flexible working and caring responsibilities.”	Discuss with staff what forms of support would most benefit their work-life balance. If appropriate, host an open discussion at MSB on flexible working to determine what issues need to be addressed.	HoAU	February 2019	Score in staff survey improved to over 70%.
34 Page 44	Identify whether there are any work-place constraints that restrict the choice of returning to full-time work after career breaks.	No member of staff has increased their hours in the reporting period.	Discuss with staff with caring responsibilities whether there are any work-place constraints that restrict the choice of returning to full-time work after career breaks.	HoAU	February 2020	Report to AUMG if any issues identified for action.

Changing the culture of the department						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
35 Page 46	Improve the understanding of ED&I issues in AU	In the 2017 SS none of the women felt they had experienced sexual harassment, but 3 out of 5 respondents had “felt uncomfortable about gendered banter which their male colleagues found amusing but which [they] did not”.	Identify through private discussions examples of poor behaviour and use them to guide training. Apply to EPSRC/Dean for funds to set up University-wide training for senior staff.	Chair of DEDIC	November 2017	No woman should report in the next staff survey that she “felt uncomfortable about gendered banter which their male colleagues found amusing but which she did not”. 100% of staff have received ED&I training.
36 Page 46	DEDIC will advertise University ED&I workshops to all staff; they will be mandatory, as appropriate, for staff in leadership roles.	The consultation exercise suggested that in a minority of cases these policies are not always adhered to by all members of the AU	Increase awareness and understanding of ED&I to help people understand what effects supposedly ‘harmless’ banter can have with training workshops for the AU	Chair of DEDIC HoAU, HoGs	November 2017	

Changing the culture of the department						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
			Offer a range of times to ensure that all staff attend and monitor workshop attendance and satisfaction rates.			

Fostering a good working environment where all contributions are recognised						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
37 Page 46	Improve the skills of managers in 'how to manage complaints'. We will provide additional training for managers on 'how to manage' complaints.	DEDIC is concerned that a small number of people may feel that their line manager may not take grievances seriously, or may not be capable of so doing.	Make representations to the University to provide additional training for managers on 'how to manage' complaints. Require all staff with managerial duties to attend them.	Chair of DEDIC (through the Faculty and University AS committees). HoAU	November 2019	Improved response in the Staff Survey from 79% to at least 85% by 2019.

Fostering a good working environment where all contributions are recognised						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
38 Page 48	Have detailed record of participation of staff on committees external to UoS for ED&I monitoring and for more accurate inclusion in the promotion and appraisal processes.	For the period under review, we do not have sufficiently detailed records to be able to extract details of participation patterns by gender on committees external to UoS. A new University-wide software system, PURE (introduced in March 2017), should allow us to do this.	Heads of Group and appraisers to encourage staff to upload 'esteem' data to PURE and discuss external commitments at appraisal.	Heads of Groups Appraisers	January 2020	Have a reliable record for monitoring ED&I in MS and for next Athena SWAN submission.
39 Page 48	Assess the impact of the workload model.	At a focus group, many participants felt that a barrier in career progression is unbalanced workload allocation. The workload allocation has started from 2017-18	Annual review of the weights associated to various tasks and of the list of staff to be performed by AUMG in consultation with staff. Consultation with staff at MSB and by anonymous	HoAU AUMG	Annually starting from September 2018.	Successful workload model based on feedback from surveys.

Fostering a good working environment where all contributions are recognised						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
			<p>feedback on the effectiveness of the workload model.</p> <p>Publication of the workload data and distribution by level and gender on the staff intranet and on the MS Blog.</p>			
40 Page 48	We will introduce a system of monitoring compliance of the new 'core hours' policy.	<p>We have established core hours policy for emails, research meetings and seminars.</p> <p>We need to ensure that this new policy is adhered to.</p>	<p>Monitor seminar times.</p> <p>At MSB check whether the core hours policy for emails is adhered to and if any changes are required.</p>	Chair of DEDIC	November 2018	<p>All seminars are in core hours.</p> <p>No staff reports that they have been pressured in replying to email out of hours, except in pre-agreed time-critical cases.</p>

Fostering a new generation of mathematicians						
Action	Objective	Rationale	Specific actions and implementation	Responsibility	Timeline	Success Criteria / Measures
41 Page 50	We will run Master classes for local state funded schools.	One key observation from the UoS Mathematics Challenge is that there is a clear difference in performance between state-founded and public schools, independently of gender.	We have received funding from STFC to run classes aimed for girls. We have many students embedded in local schools as part of the UG module on "Teaching and Communicating Mathematics". We will explore how to use this opportunity to run support classes for local state funded schools.	HoAU Outreach team Prof Marika Taylor (as PI on the STFC grant).	Annually starting in early 2018.	Excellent feedback from teachers and students.

7.2 Action plan for 2014 bronze application

We include below the action plan for the 2014 bronze. We have colour-coded the actions in red, yellow and green depending on their degree of completion: **pink**, uncompleted or implemented only in a limited way; **lime**, partially completed, work in progress; **cyan**, fully or nearly fully completed.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
1							
1.1	Monitor student data by gender. Analyse reasons for recent decline in gender ratio.	Data collected for entry and cohorts of the last six years.	Analyse 2014/2015 data when available. Develop actions to improve female recruitment.	Director of admissions; Athena SWAN committee	Annual review of data. Recruitment actions developed in 2014/2015 academic year.	October 2014	Implement actions to target women by 2015/2016 admissions round. Female participation at or above national averages by 2016/2017.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
1.2	Establish annual reporting on undergraduate failure rate by gender to programmes committee.	Data collected for cohorts of the last six years.	Identify gender difference causes of failure; improve personal tutor support.	Director of programmes; Senior tutor	Academic year 2014/ 2015; annual review of data.	October 2014	Annual reporting established by 2014/15. New actions to support students implemented by 2015/2016.
1.3	Monitor staff appointments.	Gender split of applications and short lists collected for appointments made over the last six years.	Investigate feasibility of quotas for women on shortlists.	Athena SWAN committee; University gender and diversity team	Annual review of data. Introduce quotas, if appropriate, by academic year 2016/2017.	October 2014	Maintain and if possible improve gender ratio by 2017. Improve gender ratios on shortlists.
1.4	Establish annual reporting on gender balance of research fellowship applications. [We have data for grant submissions, but not split by type of grant]	Director of research has started to collect data.	Identify differences between research groups.	Director of research	Reporting established by 2015. Annual review of data.	January 2015	Identify gender split and highlight research areas in which women are under-represented by 2015.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
1.5	Establish monitoring of leavers' destinations.	Staff turnover data available for previous six years; limited data about destinations obtained from questionnaires returned to HR.	Heads of groups will record staff destinations and reasons for leaving. Monitor for gender differences.	Heads of groups, reporting to Athena SWAN committee	Monitoring established by 2015. Annual review of data.	March 2015	Increase proportion of leavers' destination information.
1.6	Establish reporting of grant application rate by females. Encourage women to apply for more research grants.	Director of research has started to collect data.	Highlight grant schemes targeted at women. Run staff training sessions on available grants.	Director of research	Data collection to be setup by end of 2014/2015 academic year. Annual review of data.	January 2015	Identify gender differences in grant application rates. Increase female grant application rate by 30% by 2017.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
2							
2.1	<p>Monitor undergraduate acceptance of offers by women.</p> <p>Identify reasons for slight decline in offer acceptance rate.</p>	Data for last six years collected and analysed.	<p>Analyse feedback when offers are refused.</p> <p>Implement actions to target women and make courses more appealing to women.</p>	<p>Director of admissions, with University admissions and marketing teams.</p>	<p>Annual review of data.</p> <p>Trends highlighted and actions developed by 2015.</p>	Oct. 2014	<p>Actions to attract women implemented by 2015/2016 admissions round.</p> <p>Increase undergraduate ratio to or above national levels by 2017.</p>
2.2	Postgraduate exit questionnaire		<p>Analyse destinations of graduating PhD students.</p> <p>Identify gender differences and develop appropriate actions to deal with them.</p>	Athena SWAN committee, in consultation with faculty graduate school	Academic year 2014/2015	May 2015	<p>Questionnaire to be developed by end of academic year 2014/2015.</p> <p>Achieve high return rate ~60%.</p>

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
2.3	Target female applicants for PhD positions	Female academics to attend PhD recruitment events in academic year 2014/2015.	Develop recruitment strategies with University marketing team.	PhD recruitment committee, with University marketing team.	Academic year 2015/2016	Oct 2015	New recruitment strategies in place for 2016/2017 admissions round. Increase in applications from females, particularly for pure and applied mathematics, by 2017.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
2.4	Advertise departmental policy on part-time post-graduate degrees.		<p>Job advertisements to include part-time option.</p> <p>Part-time degrees to be advertised on departmental website.</p>		Academic years 2014-2016	Jan 2015	<p>Job advertisements to include part-time option by 2015.</p> <p>Website to include this information by 2015/2016.</p> <p>Increase in applications for part-time study by 30% by 2017.</p>

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
2.5	<p>Discuss career progression and career plans with postgraduate students during review meetings.</p> <p>Encourage applications for personal fellowships.</p>		<p>Identify training needs, to support career development and advise attendance at relevant University courses.</p> <p>Highlight research fellowship schemes aimed at women.</p>	Supervisors	Academic year 2014/2015	May 2015	<p>Records of discussions in reports of meetings.</p> <p>Increase female fellowship applications by 30% by 2017.</p>

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
3							
3.1	Ensure all staff are aware of the university promotions process. Discuss promotion during annual reviews and record advice given.	Head of Department to email all staff with information about promotions procedures, reminding staff of application deadlines.	Survey staff in 2016 to find out whether knowledge of the promotions process has improved.	Heads of research groups and head of department	Academic year 2014/2015 Survey in 2016	June 2015	Records of discussions and advice given in reports of annual reviews from 2015 onwards. Staff report increased awareness of promotion criteria in 2016 survey.
3.2	Encourage timely promotions by women.		Management group to monitor time spent at each academic level before promotion and annually review all staff for promotion.	Management group	Establish monitoring in 2014/2015; annual review for all staff	Jan 2015	Female staff apply for promotion at least as early as male staff. Increased numbers of female professors and readers by 2017.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
3.3	<p>Provide equality and diversity training and unconscious bias training for all staff.</p> <p>Provide recruitment and interview training for those involved in shortlisting and recruitment.</p>			University staff development courses.	October 2014		100% of staff should have received unconscious bias training by the end of 2014/2015.
3.4	Use extended shortlists for staff appointments to improve gender and diversity.	Permission obtained from university management team.	Invite shortlisted candidates for extended visits.	Appointments panels, guided by head of department	July 2014 onwards		<p>Improved gender balance on shortlists.</p> <p>Increase in female appointments at senior levels.</p>

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
3.5	<p>Advertise staff positions through channels aimed at women.</p> <p>Research groups to compile long lists of female candidates. Candidates contacted and encouraged to apply.</p>		Compile lists of channels which target women researchers e.g. networks of female academics.	Appointments panels, in consultation with research groups.	Academic years 2014-2016		<p>Appointments panels to be asked to target women from 2014/2015.</p> <p>List of advertisement channels to be compiled in 2015/2016.</p> <p>Increase in female applicants for staff positions by 2017.</p>

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
3.6	Target female applicants for personal research fellowships, from Southampton and elsewhere.	Incentives offered to staff members who attract applicants. Dean agrees to offer open-ended contracts to holders of long-term fellowships.	Director of research to inform research groups about fellowship schemes targeted at women.	Heads of research groups; Director of research	January 2015		Improve the gender balance of research fellowship applications: 30% increase in female applications by 2017.
3.7	Invite applications for departmental roles.	Management group reviewing departmental roles, improving opportunities for gaining leadership experience.	Group leaders to encourage female applicants to apply, where appropriate.	Management group	October 2014		Switch from appointing staff to roles to applying for roles in academic year 2014/2015. Annual reviews indicate female staff have more experience of leadership and management, strengthening their promotions chances.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
4							
4.1	Advertise university mentoring scheme during annual reviews and monitor uptake.		Encourage staff to attend training in mentoring and being mentored.	Research group leaders; University diversity and equality team	Academic year 2014/2015	June 2015	Appraisers to discuss mentoring scheme in appraisals from 2015 onwards. Increased uptake of mentoring of women by 50% by 2017.
4.2	Assign mentors ("senior colleagues") to new appointees.		Encourage staff to attend training in mentoring. Survey staff in 2016 to find out how to improve senior colleague system further.	Human resources in consultation with head of department	Summer 2015		Senior colleagues to be assigned from 2014/2015 onwards. New staff report positive experiences with mentoring and induction process in 2016 survey.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
4.3	Encourage attendance of appropriate university personal development training courses in annual reviews.		Increase uptake of relevant courses e.g. interview training; marketing research.	Heads of groups	Spring 2015		Records of training courses attended included in annual reviews from 2015 onwards.
5							
5.1	Improve awareness of equality and diversity.		Organise departmental training sessions on unconscious bias and gender issues.	Head of department	October 2014		100% of staff to attend such sessions in 2014-2016.
5.2	Expand opportunities for staff to obtain experience in leadership and decision making roles.		Increase female participation on decision making committees.	Head of department with management group	October 2014		Improved gender balance in leadership roles by 2017.
5.3	Create new departmental webpages for gender and diversity issues, linked to University Athena SWAN websites.		Increase awareness of Athena SWAN.	Departmental website manager, in consultation with university team.	October 2015		New webpages available by end of academic year 2015/2016.

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5.4	Develop departmental wiki with information about Mathematical Sciences.		<p>Include information about university support for harassment.</p> <p>Survey staff in 2016 to ask how induction can be improved.</p>	Head of department and management group	October 2015		<p>Wiki to be made available in academic year 2015/2016.</p> <p>Staff report positive experiences with induction in 2016 survey.</p>
5.5	<p>Instigate departmental colloquium, given by high profile mathematicians.</p> <p>Invite women in the department to networking event preceding/following each colloquium.</p>	<p>Budget allocated by management group.</p> <p>Suggestions for female speakers collected.</p>	<p>Invite senior female mathematicians to provide role models.</p>	Head of department with heads of research groups	January 2015		<p>Bi-semesterly colloquium to be started in academic year 2014/2015.</p> <p>Women's networking event to be initiated in 2014/2015.</p>

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
6							
6.1	Advertise parental leave, return to work and flexible working policies on new gender and diversity webpages.		Highlight university human resources policies. Ensure staff are informed of REF policy for publication gaps caused by parental leave.	Departmental website manager, in consultation with university team.	May 2016		Webpages available by end of academic year 2015/2016. <i>[Done in 2017]</i> 2016 staff survey indicates staff are now aware of policies.
6.2	Advertise policy for workload after return from maternity leave.		Highlight on new webpages	Departmental website manager, in consultation with university team.	May 2016		Webpages available by end of academic year 2015/2016.

Action	Description of action	Action taken already and outcome at October 2014	Further action planned at October 2014	Responsibility	Timescale	Start date	Success Measure
6.3	Establish core hours policy for research group meetings and seminars.	Departmental emails sent only in working hours	Seminar organisers to be informed of policy.	Head of department; Heads of research groups	October 2014		Policy introduced in 2014/2015. <i>[Done in 2017]</i> Meetings and seminars are accessible to all those who wish to participate.
6.4	Rotate departmental meetings between different days of the week, wherever possible, so part-time staff do not continually miss them.		University timetabling to advise on optimal timings for departmental meetings, to enable as many staff as possible to attend.	Head of department	October 2014		Policy introduced in 2014/2015. <i>[Done in 2017]</i> Part-time staff attend more departmental meetings.
6.5	Formalise teaching and workload cover for pregnancy leave.	Investigate arrangements made by other departments; emulate good practice.		Heads of groups with head of department	March 2016		Develop policies for supporting women on maternity leave by 2016.

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6.6	Set up lactation facilities for mothers returning after maternity leave.		Investigate available facilities on campus.	Athena SWAN committee	October 2016		Facilities arranged by 2016. Advertise this support for women returning from maternity leave by 2016/2017.
6.7	Investigate possible support for dual career couples.		Explore feasibility of a spouse fellowship scheme (following London Mathematical Society).	Athena SWAN committee, together with University Gender and Diversity team	October 2016		Financial and legal feasibility of scheme to be decided by 2017. Department develops spouse fellowship scheme.