Athena SWAN Bronze department award application

Name of university: King's College London

Department: School of Natural & Mathematical Sciences

Date of application: 30 April 2014

Date of university Bronze SWAN award: renewed in April 2013

Contact for application: Dr Elizabeth Black

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Abbreviations

Ac&R	Academic & Research
E&D	Equality & Diversity
ECR	Early Career Researcher
HEIDI	Higher Education Informatics Database for Institutions
HESA	Higher Education Statistics Agency
JACS	Joint Academic Coding System
NMS	School of Natural & Mathematical Sciences
PGR	Post Graduate Research student (i.e. PhD students)
PGT	Post Graduate Taught student (i.e. Masters students)
SAT	Self-Assessment Team
UG	Undergraduate student
WG	Working Group

Word counts

Our unit of assessment is the School of Natural & Mathematical Sciences, which consists of four departments: Chemistry, Informatics, Mathematics and Physics. We applied for 1000 extra words to allow us to address the different issues faced by our individual departments. This request was granted in the email below.

Dear Elizabeth,

Thank you for contacting us. I can confirm it is possible for you to have an extra 1,000 words for your application.

These additional words can be used throughout the application, but it should be made clear where they have been used in the word count at the end of each section. It is also helpful if you can state at the start of the application somewhere that these have been awarded by us.
Please note that the 1,000 words are counted for where you are over the standard word limits of sections (being under the word limit in any other section does not mean that you have further words available).

Best wishes,

Harri C Weeks
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Follow us on **Twitter**: @EqualityinHE | @Athena_SWAN

We have used 819 of our extra words in Section 2 (The self-assessment process) and 181 of our extra words in Section 3 (A picture of the department). Word counts for each section are given below.

Section 1	Letter of endorsement from the head of department	498 words
Section 2	The self-assessment process	1819 words
Section 3	A picture of the department	2181 words
Section 4	Supporting and advancing women's careers	4975 words
Section 5	Any other comments	151 words

1. Letter of endorsement from the head of department: maximum 500 words [498 words]

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

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

School of Natural & Mathematical Sciences

Professor Michael Luck
Head of School

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KING'S College LONDON

28 April 2014

Dear Athena SWAN Assessment Panel,

I am writing to confirm my support for the application of the School of Natural and Mathematical Sciences for Athena SWAN Bronze, and to take this opportunity to state my commitment to ensuring that gender equality is embedded in our culture and practice. This is an obligation and responsibility that we in the School have understood as a fundamental part of our business, especially in our fields where the gender imbalance demands immediate attention.

As Head of School I chair the Equality and Diversity (E&D) Committee (the only School committee that I personally chair, reflecting the importance I place on this agenda) and, with our E&D Champion, I ensure that Athena SWAN, and equality and diversity more generally, are central to how the School's operates. Importantly, we also insist on a quarterly report at our School Executive Board, in order that both progress and needs are effectively integrated at the highest possible levels.

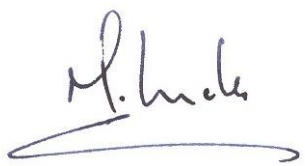
In 2012-13, less than 20% of academic staff, and less than 9% of professors, were women. Our staff consultation has indicated that our promotion process is not well understood, that appraisals are sometimes not happening, and that workload allocation is not transparent. In response, we are already progressing on an action plan.

Our activities within the School relate both to raising awareness of the challenges and to taking actions to address inequalities and perceived inequalities. We are raising awareness through email newsletters and web pages from myself as Head of School, and our E&D Champion, and are co-opting staff and student volunteers to contribute. More widely, the School hosted a Campaign for Science and Engineering policy forum on diversity in STEM in February 2014, I personally presented our Women in Science activities at a King's "Inspiring Change" event celebrating International Women's Day, and I am also personally leading a pilot conference childcare support scheme for the College.

From establishing undergraduate Women in Science scholarships, through our research showcase of career options for students and early career researchers, and proactive encouragement and support for women in promotion applications, we are seeking to address all career stages. We are reviewing our student outreach activities to better target girls, while in staff recruitment we aim to attract more female applicants and reduce the possibility of bias in our application process. We are also undertaking a review of workload allocation, and are establishing a range of support mechanisms for women across all levels.

In this context, I am delighted that we have appointed Professor Paula Booth as Head of Chemistry from September 2014, a role model for Chemistry and the School as a whole. Similarly, the recent promotion round has meant that we will have female professorial representation in all departments from September (after a short gap this academic year due to retirement) with 2 out of 4 professorial promotions being women (from September 2014). Nevertheless, it is clear that this application is merely a first step in improving both culture and processes to support women in the School.

Faithfully,



Professor Michael Luck

2. The self-assessment process: maximum 1000 words. [1819 words]

Describe the self-assessment process. This should include:

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

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

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

Our self-assessment team (SAT)

In September 2013, our NMS Equality & Diversity (E&D) Committee was established, which acts as our Athena self-assessment team (SAT). This was deliberate, to ensure that our efforts to support gender equality are embedded directly in the School's structures.

Our SAT is necessarily quite large to ensure good representation of different experiences across our four constituent departments (Chemistry, Informatics, Mathematics, Physics).

Professor Michael Luck, Chair E&D Committee (SAT), Head of School: Michael joined King's in 2007. He was Head of Informatics from 2011 until 2013, when he became Head of School. As Chair of our SAT, Michael ensures that all members take collective responsibility for driving the Athena agenda forward in their department; as Head of School, he ensures that the Athena principles are embedded from the top down.

Dr Elizabeth Black, NMS E&D Champion, Lecturer, Informatics: Elizabeth joined King's as a new lecturer in 2011 and is conscious of the challenges associated with making the transition from Researcher to Lecturer. Elizabeth was part of the College SAT for our institutional Bronze renewal. As E&D Champion, Elizabeth drives and coordinates our Athena activities, and shares best practice across the College through the College Athena Champions' network.

Isabel Sassoon, NMS E&D Data Analyst, PhD student, Informatics: Isabel joined King's as a mature PhD student in 2012, having worked for 15 years in the fields of Statistics and Data Mining. She is married with two young children, and balances her full-time PhD with family life by scheduling meetings in term-time school-hours and regularly working from home. Isabel has been employed to help with our Athena data analysis.

Clare Cudby, NMS E&D Officer, NMS Senior Administrative Officer: Clare joined King's in 2006. She works across a range of projects, which includes supporting E&D activity at School-level.

Rosie Smith, NMS Director of Administration: Rosie works closely with the Head of School and Heads of Department to deliver the operational and strategic objectives of the School. She joined King's in 2010, initially as Head of Departmental Administration for Informatics and Mathematics, and was promoted to Head of School Administration in 2012, and to Director of Administration in 2013.

Josephine Bardswell, NMS Disability Advisor: Josephine has been the School's disability adviser for 5 years.

Dr Carmen Domene, Reader, Chemistry: Carmen is a member of the Biophysical Society Committee for Professional Opportunities for Women. She was a member of the College SAT for our institutional Bronze renewal and is an active member of the Science and Engineering Ambassadors scheme, working with school children to support the teaching of science and to break down the stereotypical image of a scientist.

Professor Maribel Fernández, Informatics: Maribel is married and has two children of school age. She is a member of the ACM-Women scholarships panel, supporting and celebrating the work of junior female Researchers in Computer Science. Maribel joined King's in 2002 and was promoted to Reader in 2006 and to Professor in 2011.

Dr Nishanth Sastry, Lecturer, Informatics: Prior to Nishanth's PhD, he spent 6 years in Industry and Industrial Research Labs. His wife is also in academia, and they share caring responsibilities for their 4 year old daughter.

Dr Sophia Tsoka, Senior Lecturer, Informatics: Sophia joined King's as Lecturer in September 2007 following a two-year career break for family reasons and was promoted to Senior Lecturer in 2013. She is married and has two school age children.

Dr Helge Würdemann, Post Doctoral Researcher, Informatics: Helge joined King's as a PhD student in 2008 and became a Post Doctoral Researcher in 2011.

Marianne Hoogeveen, PhD student, Mathematics: Marianne worked in industry for a year before going to university and took a year out between her BSc and MSc to study a language.

Dr Tiziana Di Matteo, Reader, Mathematics: Tiziana joined King's as Lecturer in 2009 and was promoted to Reader in 2010. She was previously QEII Fellow at the Australian National University, where she took two periods of maternity leave. She is married with two young children.

Dr Sameer Murthy, Lecturer, Mathematics: Sameer joined King's in 2013 and has experience of working as a fixed-term research fellow. He represents NMS on the College's ECR Concordat Implementation Group.

Dr Alexander Paulin, Lecturer, Mathematics: Alexander received his PhD in 2008 and subsequently held two fixed-term lectureships, before joining King's in 2012.

Dr Nicola Bonini, Lecturer, Physics: Nicola joined King's in 2011. He is married and regularly shifts his working hours so he can spend time with his young son in the morning.

Dr Paul Le Long, Department Manager, Physics: Paul comes from a relatively poor working class background and entered HE as a mature student, qualifying with a PhD at the age of 35. Having followed a non-standard career path and come from humble origins he understands some of the challenges faced by staff and students from less privileged sections of society.

Professor Samjid Mannan, Physics: Samjid joined King's in 1999 and was promoted to Reader in 2007 and to Professor in 2010. He has four daughters (ages 3-14).

Professor David Richards, Head of Department, Physics: David has been Head of the Department of Physics since 2007. His wife is also a full-time academic and they have an 11-year old daughter. Both have also had sole responsibility for their elderly parents. David does not arrange meetings prior to 10am, as he drops his daughter at school, and works at home one day a week.

Lydia Sandiford, PhD student, Physics: Prior to starting her PhD, Lydia studied for a Physics MSci at King's.

Our self-assessment process

Members of the School of School of Natural & Mathematical Sciences (NMS) were closely involved in the College's successful Bronze renewal in 2013. The School, which is made up of four STEM departments, then decided to apply as a single unit for a departmental Bronze award. This was done to ensure that we developed a broad-based, collective School-level approach to gender equality and diversity as well as tackling the specific disciplinary issues faced by our individual departments. While the individual departments in the School have autonomy over their teaching and research strategy, the budget and organisational policy is dealt with at School level and so it is appropriate to consider the School as our unit of assessment for this application. Moreover, given the relatively small sizes of our individual departments, and the particularly small numbers of women[1], a collaborative approach has allowed us to draw on a broader range of role models and to learn from best practice across the departments. Some of what we learned from developing this School-level application has been very sobering and we know we have much work to do.

Our SAT (E&D committee) meets every two months, with sub-groups meeting as necessary (both cross-department working groups for particular areas of concern and department-focused groups for department engagement) and regular email communication between the full meetings. The SAT has met formally four times and we have convened two informal meetings to go through our application in detail.

Elizabeth Black (E&D Champion) meets weekly with Clare Cudby (E&D Officer), monthly with Rosie Smith (Director of School Administration) and weekly with Michael Luck (Head of School), to support her in driving our self-assessment process. Elizabeth is also part of the College's Athena Champions' Network, which meets every two months to share best practice, and reports to the

[1] Currently, there are: 11 academic staff in Chemistry, 6 of whom are women; 48 academic staff in Informatics, 11 of whom are women; 41 academic staff in Mathematics, 5 of whom are women; 30 academic staff in Physics, 3 of whom are women.

School Executive Board every two months, ensuring strong senior engagement with our Athena activities. Elizabeth has 50% relief in her teaching duties this year in recognition of the extra work she is doing around Athena and is supported by our Data Analyst, Isabel Sassoon.

Each departmental subgroup of the SAT completed a review of current process, practice and culture within their department (adapted from the *Good Practice Checklist* of Oxford Research and Policy) and we ran an academic and research staff survey. Together with our data analysis, this allowed us to identify our particular challenges and draft an action plan in response. This action plan has been revised collectively by the SAT.

Elizabeth Black spent two days at Queen's University Belfast learning about their good practice; this informed our action plan.

David Richards attended and reported back to the SAT on an unconscious bias workshop at the Institute of Physics, which included a presentation Paul Walton, former Head of the Department of Chemistry at York University, who spoke about their journey to achieve the first Gold Athena award.

Elizabeth Black and Clare Cudby attended a presentation from Averil Macdonald, experienced Athena SWAN Panel member, and Michael Luck met with her to discuss childcare support.

The King's Athena Project Manager attended one of our SAT meetings and has provided feedback on our action plan.

Staff and students have been consulted on and engaged with our process via the following mechanisms:

- Women in Science newsletter,
- Head of School newsletter,
- Women in Science webpages,
- academic and research staff survey,
- network of Women in Science student champions.

All Heads of Departments have reviewed our application and action plan and are implementing actions at local level.

Through this self-assessment process, we have identified 6 main areas of concern (addressed as themes 2-7 in our action plan):

- **Under representation of women students.** Main challenge: attract more female applicants.
- **Under representation of women in academic and research posts.** Main challenge: attract more female applicants.
- **Promotion process**. Main challenges: improve support available; ensure women are encouraged to apply and understand how to succeed.
- **Career support.** Main challenges: improve appraisal process; ensure necessary support is available.
- **Workload allocation.** Main challenge: establish transparent workload allocation models.
- **Culture**. Main challenges: communicate Athena principles; ensure inclusive events.

Our plans for the future

The SAT will continue to meet every two months and will drive our action plan forward; as our newly established Chemistry department grows in size, we will invite more members of Chemistry to join. We have established working groups within our SAT to manage actions in particular areas. Where actions are the responsibility of other committees/roles within the School, they will be reported on to the SAT.

We will introduce the role of Deputy E&D Champion, who will take over from our current champion when she has completed a two-year term.

Each department has a sub-group that feeds into the School SAT; these sub-groups, supported by our Heads of Departments, will ensure the implementation of our action plan locally within departments.

Athena will be introduced as a standing item on all department staff meetings and the E&D Champion will continue to report to the School Executive Board every two months. It is the Executive Board that is responsible for ensuring progress in our action plan and the Head of School (who chairs the Board) is ultimately held accountable for our Athena progress by the College's Athena Steering Group.

The School is fully committed to the Athena principles; we aspire to get each of our departments to Silver level by 2016.

3. A picture of the department: maximum 2000 words [2181 words]

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

The School of Natural and Mathematical Sciences (NMS) was formed in August 2010 following the reorganisation of the former School of Physical Sciences and Engineering. This has involved a significant change in departmental structures within the School that has only very recently been completed. In 2010, the Centre for Bioinformatics joined the Department of Computer Science to become the new Department of Informatics, joined two years later by the Centre for Robotics Research from the former Division of Engineering. At the start of 2014, the Centre for Telecommunications Research also joined Informatics having previously been in Engineering and, for a short period, an independent unit within the School. Also in 2014, the Department of Chemistry, which was formed in 2012, joined the School. This restructuring means that significant efforts have had to be (and continue to be) made in bringing together some rather diverse policies and practices, as well as teaching programmes. As well as offering challenges, this has also provided opportunities to review and refresh our collective approach to equality and diversity.

The School thus now includes the Departments of Chemistry, Informatics, Mathematics and Physics, with the latter three based at the Strand Campus and the former largely based near the Guy's Campus (1.8 miles from the Strand Campus). Undergraduate teaching is based at the Strand Campus, except for Physics and Chemistry, for whom the teaching laboratories are based at Waterloo (a 10 minute walk from the Strand Campus).

Across the School, there are currently 130 academic staff, 45 professional services staff, and 66 research staff, and approximately 1200 undergraduate students, 300 taught postgraduate students, and 190 postgraduate research students. We run 27 undergraduate programmes (both single and combined degrees), 22 MSc programmes, and 6 postgraduate research programmes.

The School is both the designated budget-holder at King's and the body that reports directly to the College on education and research. It operates through committees for Education, Research, Equality & Diversity, Health & Safety, Computing, and Research Students, with representation from each academic department, providing governance and policy-making and a means of sharing best practice. Within each department are local committees developing local policies, and reporting to the School committees. Management of academic staff takes place through the departments and their Heads (academic members of staff) responsible for line management of academic staff (although in larger departments, some of this is devolved to Heads of Group), and the strategic direction and management of research. Teaching and administrative responsibilities are organised and managed by departments and their Heads, who form the School's Executive Board, which meets on a formal basis monthly, supplemented by weekly informal meetings. In all this, the School is supported by a team of professional services staff with specific responsibility for the different committees, complementing the support from within individual departments.

Our Athena SAT has the full support of our senior management team (Head of School and Heads of Departments, all male), who understand the importance of what we are doing and the role that they play in ensuring our collective success in creating a culture that supports diversity.

We present data for the academic years 2010-13 by department wherever possible, only presenting data by the School where the numbers by department are very small.

Student data

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

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

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

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

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

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

Benchmarking of student data

Benchmark used is national HESA data for all institutions, extracted from HEIDI[2]; details are given in Table 1.

Department	Level	Benchmarked against	Notes
Chemistry	UG	JACS code F1	F1: Chemistry There are no Chemistry PGT programmes and only one Chemistry PGR student so no benchmarks given for PGT or PGR.
Informatics	UG	2012-13: JACS code I1 2010-12: JACS code G4	The JACS classification of Computer Science was updated in 2012. I1/G4: Computer Science I3/G6: Software Engineering H3: Mechanical Engineering H6: Electronic & electrical engineering H9: Others in Engineering These codes represent the broad spread of Informatics programmes except for our MSc in Bioinformatics, which we have not included in the benchmarking as it only received its own code in 2012-13.
	PGT	2012-13: combination of JACS codes I1, I3, H3, H6, H9 2010-12: combination of JACS codes G4, G6, H3, H6, H9	
	PGR	2012-13: combination of JACS codes I1, H3, H6 2010-12: combination of JACS codes G4, H3, H6	
Mathematics	UG, PGT, PGR	JACS code G1	G1: Mathematics
Physics	UG, PGT, PGR	JACS code F3	F3: Physics

Table 1: Shows the HESA JACS (Joint Academic Coding System) codes against which we have benchmarked our student data.

[2] HEIDI: Higher Education Informatics Database for Institutions https://heidi.hesa.ac.uk/

Foundation students

Chemistry, Mathematics and Physics each contribute teaching to the International Science Foundation Programme (ISFP), which is not an NMS programme but is managed by the King's English Language Centre.

	Year	Number of female students	Number of male students	% of students who are female
Chemistry	2010-11	5	2	71%
	2011-12	5	1	83%
	2012-13	5	3	63%
Mathematics	2010-11	5	15	25%
	2011-12	3	12	20%
	2012-13	1	12	8%
Physics	2010-11	0	0	N/A
	2011-12	0	0	N/A
	2012-13	1	1	100%

Table 2: Gender breakdown of students receiving teaching from NMS departments as part of the International Science Foundation Programme (ISFP).

The percentage of women taking Mathematics as part of the ISFP is very low and has dropped from 25% in 2010-11 to 8% in 2012-13; however, the small proportion of women that we see here is not reflected in our Mathematics UG programmes (45% women in 2012-13). We will continue to monitor UG student numbers, and respond to any changes in trend that require action.

Part-time students

Our UG programmes and our Informatics PGT programmes are all full-time. Mathematics and Physics PGT programmes are offered part-time, as are all NMS PGR programmes. Unfortunately, the data we have does not allow us to identify students as full or part-time; the student data we present includes all full-time and all part-time students. We will ensure in future that we can interrogate our data regarding the full/part-time status of our students (**Action: 1.1**).

Chemistry student numbers and applications

The Chemistry UG programme was established in 2012. In 2012-13, the programme had 19 students, 57% of whom were women (national benchmark: 42%). Chemistry has no PGT programmes. In 2012-13, Chemistry had only one PGR student, who is male (and none before, since Chemistry was only established in 2012).

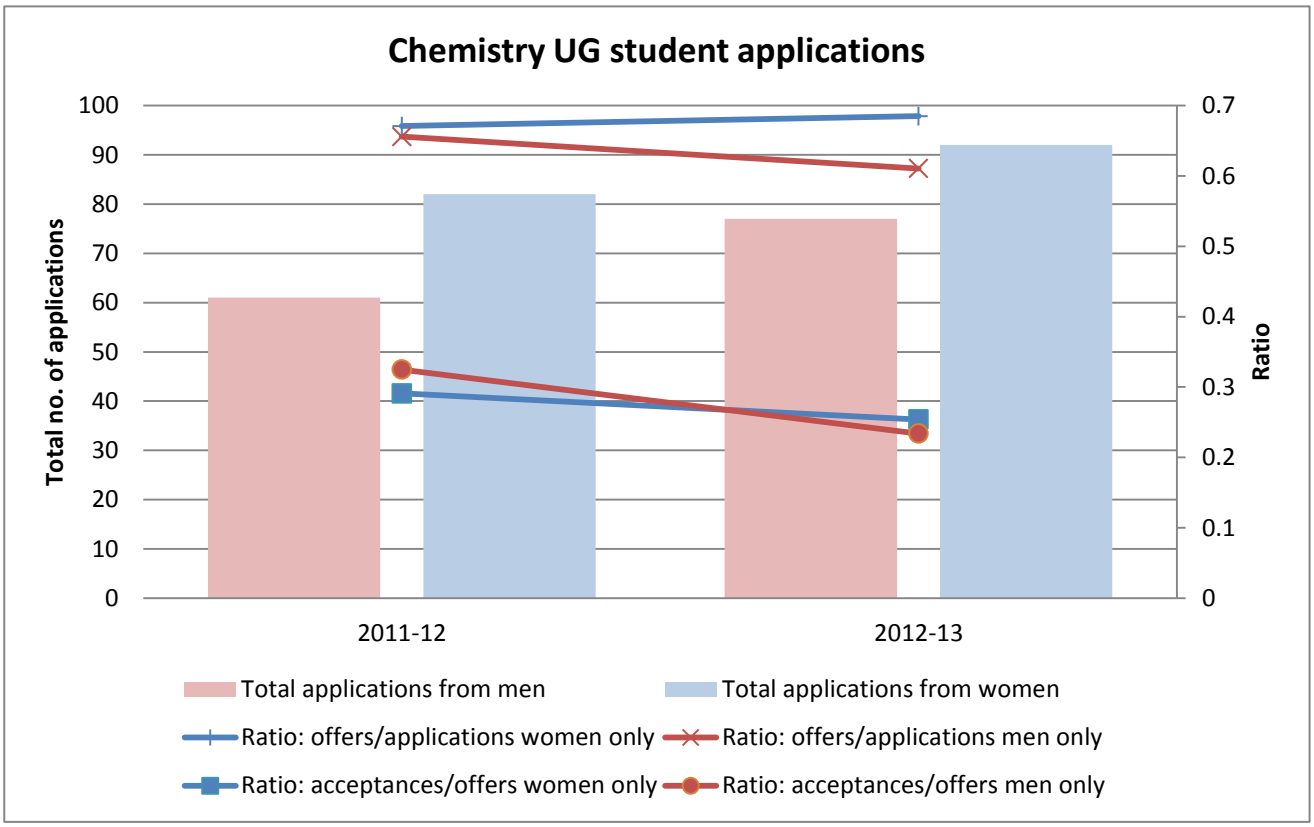


Figure 1: Bars show total numbers of UG student applications made to Chemistry. Lines show ratio of offers to applications and ratio of acceptances to offers, for men and women. Note there is no data for 2010-11 since the Chemistry UG programme was only established in 2012.

Chemistry UG student applications

	2011-12		**2012-13**	
	Men	**Women**	**Men**	**Women**
Total applications	61	82	77	92
Total offers	40	55	47	63
Total acceptances	13	16	11	16
Ratio: offers/applications	0.6557	0.6707	0.6104	0.6848
Ratio: acceptances/offers	0.325	0.2909	0.2340	0.2540

Our analysis of the ratio of offers to applications and acceptances to offers (Figure 2) does not indicate any bias in our application process for Chemistry UG. We have not analysed the applications for Chemistry PGR since the numbers are too small (<5).

We will continue to monitor Chemistry student data and formulate actions to address any issues that arise.

Informatics student numbers and applications

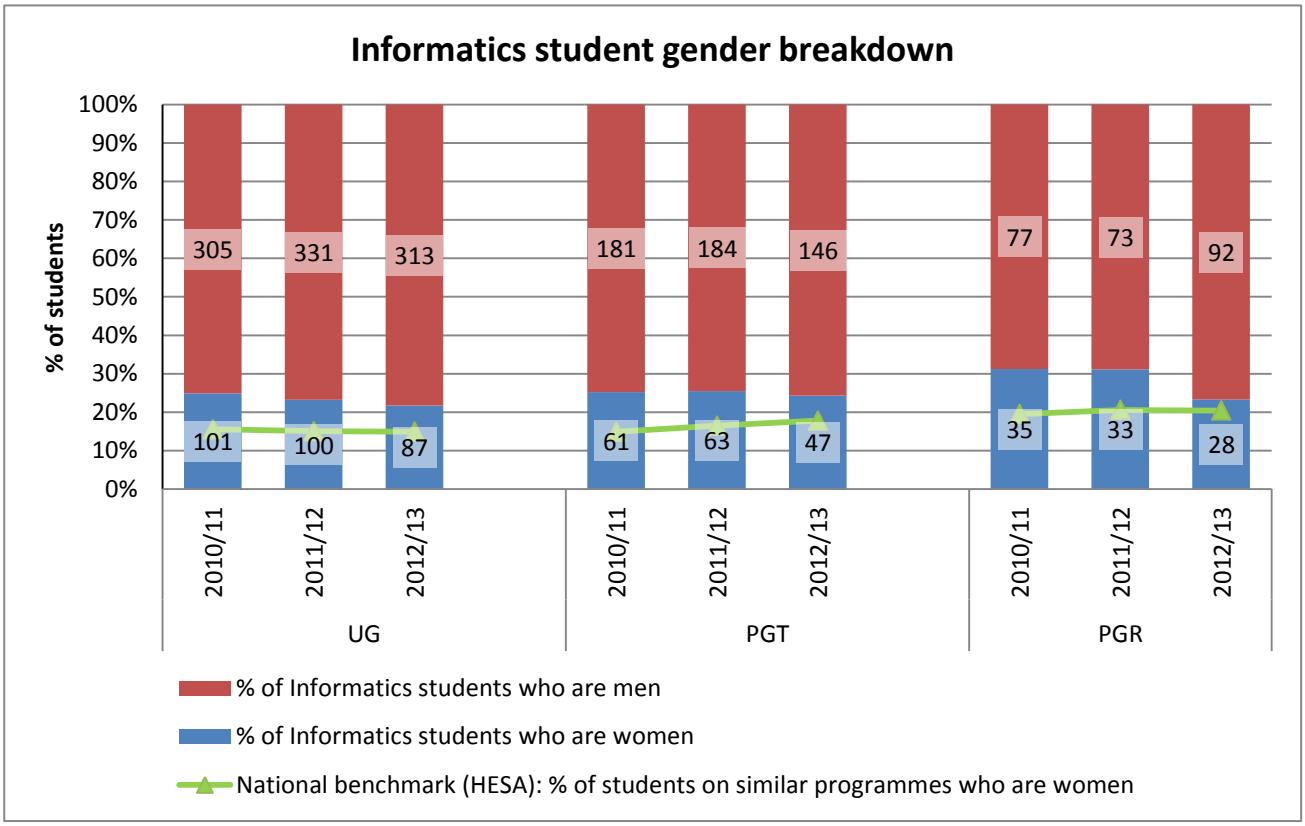


Figure 2: Bars show % of Informatics students who are women/men and are labelled with absolute numbers. Lines show national benchmark: % of students on similar programmes in UK who are women.

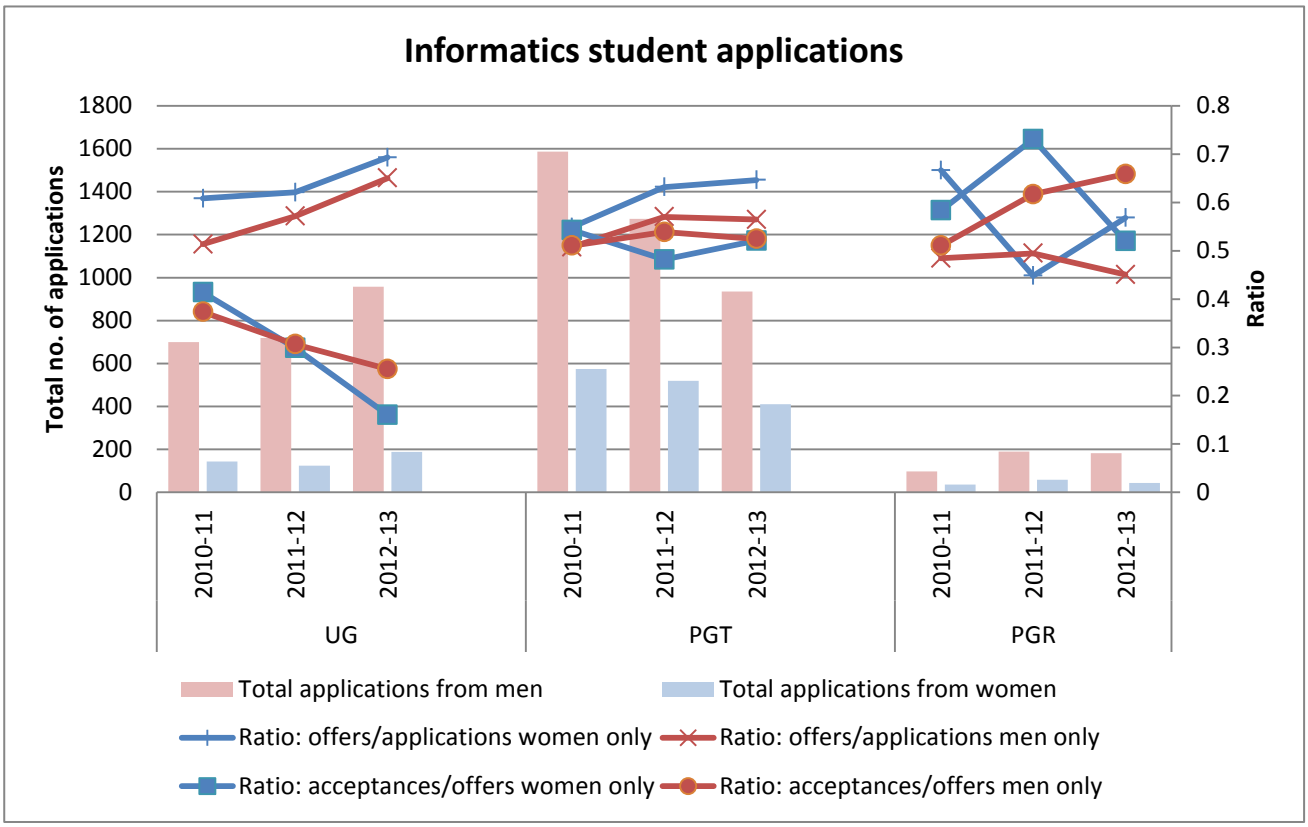


Figure 3: Bars show total numbers of student applications made to Informatics for 2011, 2012 and 2013 entry. Lines show ratio of offers to applications and ratio of acceptances to offers, for men and women.

Informatics UG student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	699	143	719	124	958	189
Total offers	359	87	411	77	623	131
Total acceptances	134	36	126	23	159	21
Ratio: offers/applications	0.5136	0.6084	0.5716	0.6210	0.6503	0.6931
Ratio: acceptances/offers	0.3733	0.4138	0.3066	0.2987	0.2552	0.1603

Informatics PGT student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	1586	574	1273	519	935	410
Total offers	805	315	726	328	528	265
Total acceptances	411	177	391	158	277	138
Ratio: offers/applications	0.5076	0.5488	0.5703	0.6320	0.5647	0.6463
Ratio: acceptances/offers	0.5106	0.5429	0.5386	0.4817	0.5246	0.5208

Informatics PGR student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	**97**	36	190	58	182	44
Total offers	47	24	94	26	82	25
Total acceptances	24	14	58	19	54	13
Ratio: offers/applications	0.4845	0.6666	0.4947	0.4483	0.4505	0.5682
Ratio: acceptances/offers	0.5106	0.5833	0.6170	0.7308	0.6585	0.5200

In Informatics, while there is no obvious attrition of women from UG to PGR, our proportion of women at UG, PGT and PGR (although above the national benchmark) is low (22%, 24%, 23% respectively in 2012-13) and has decreased slightly over the period examined, particularly at PGR level (Figure 3). We see no evidence that this is a result of bias in our applications process, but rather it reflects the small numbers of women who apply (Figure 4). Our website and student recruitment material will be updated to include a diverse range of student profiles and details of our Women in Science activities (**Action: 2.1**) and we will continue to hold an annual event to encourage our taught students to consider PhDs (**Action: 2.4**).

We are particularly concerned with the number of female UG students in Informatics. Some of our current Informatics students have recently formed the KCL Tech Society, which ran a very successful nationwide student hackathon. With them, we will investigate the possibility of organising a hackathon for school girls, to encourage them to consider Informatics degrees (**Action: 2.2**).

Mathematics student numbers and applications

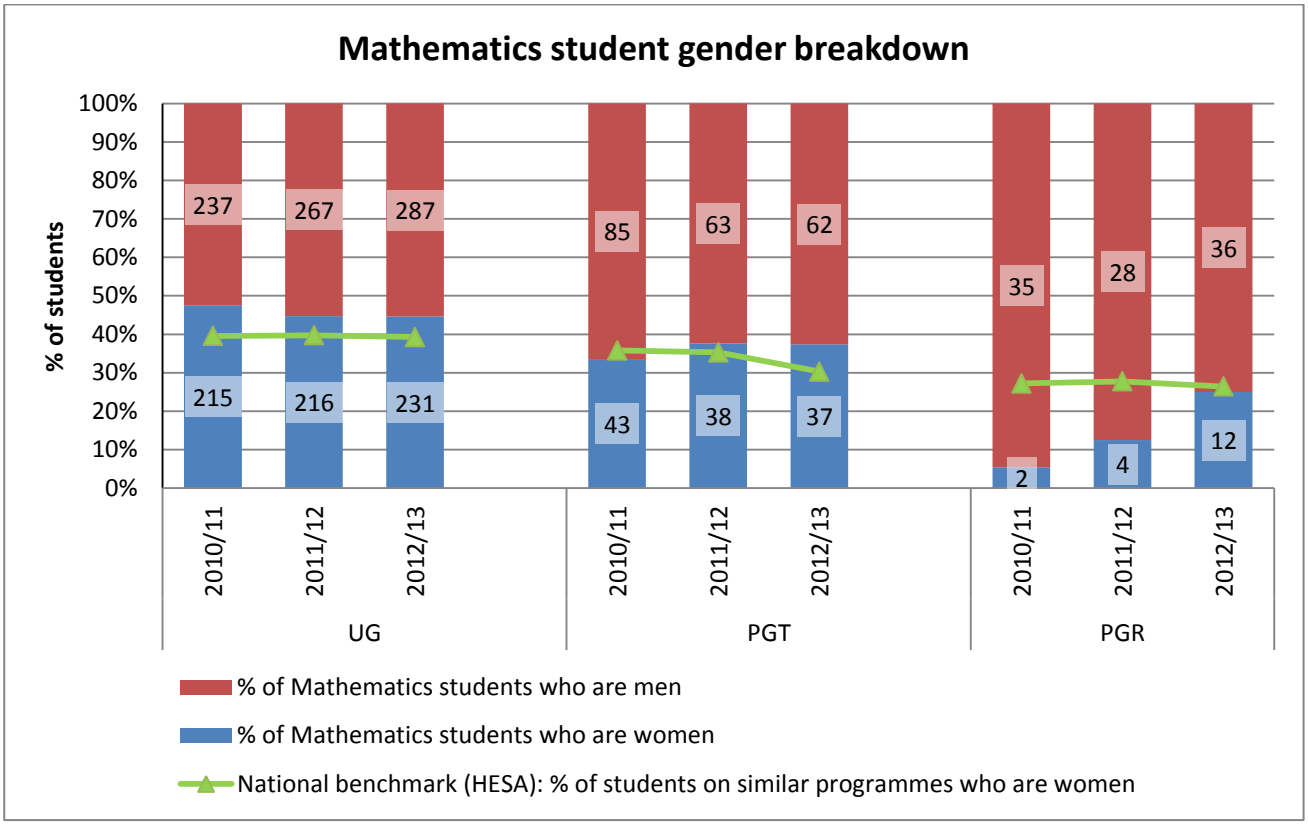


Figure 4: Bars show % of Mathematics students who are women/men and are labelled with absolute numbers. Lines show national benchmark: % of students on similar programmes in UK who are women.

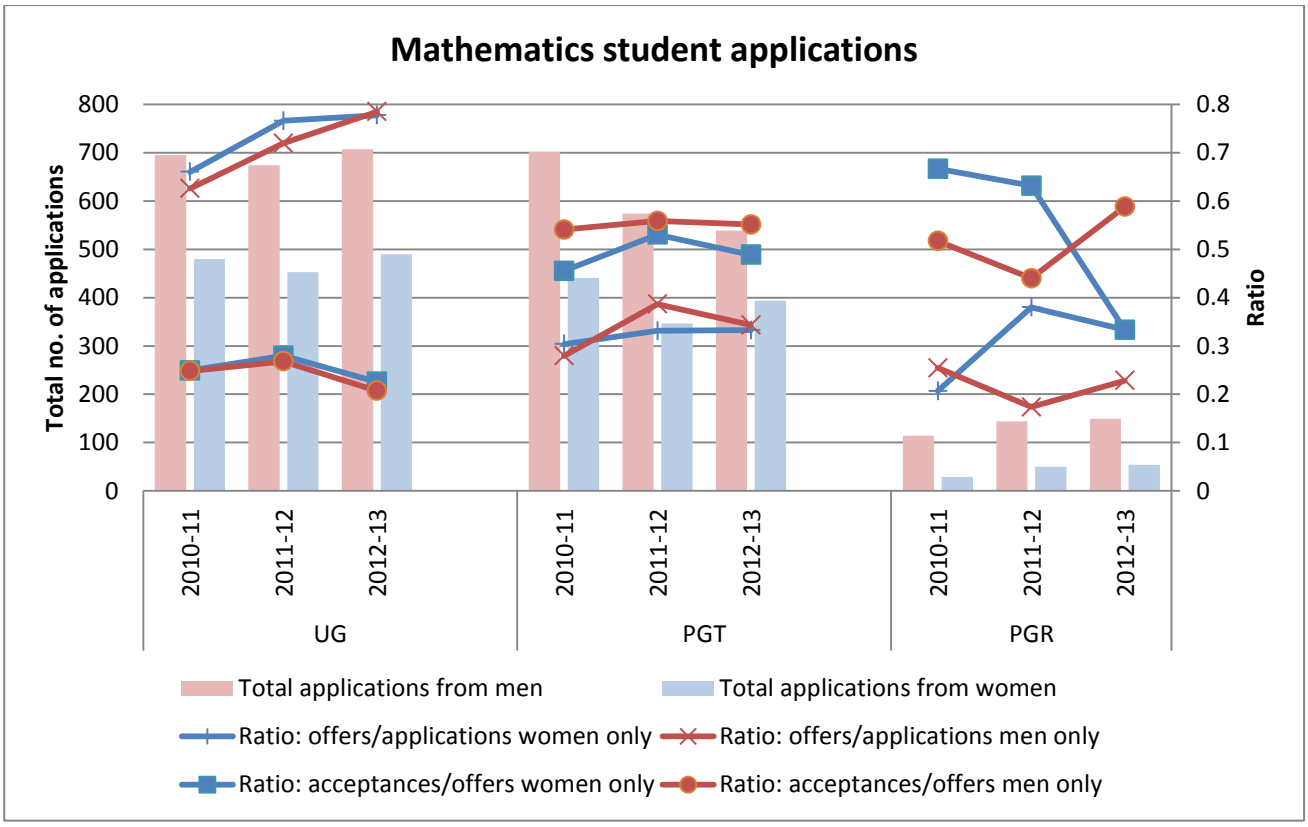


Figure 5: Bars show total numbers of student applications made to Mathematics for 2011, 2012 and 2013 entry. Lines show ratio of offers to applications and ratio of acceptances to offers, for men and women.

Mathematics UG student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	695	480	674	453	707	490
Total offers	435	317	485	347	555	381
Total acceptances	108	79	130	97	115	86
Ratio: offers/applications	0.6259	0.6604	0.7196	0.7660	0.7850	0.7776
Ratio: acceptances/offers	0.2483	0.2492	0.2680	0.2795	0.2072	0.2257

Mathematics PGT student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	702	441	574	347	539	394
Total offers	196	134	222	115	185	131
Total acceptances	106	61	124	61	102	64
Ratio: offers/applications	0.2792	0.3039	0.3868	0.3314	0.3432	0.3325
Ratio: acceptances/offers	0.5408	0.4552	0.5586	0.5304	0.5514	0.4885

Mathematic PGR student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	114	29	144	50	149	54
Total offers	29	6	25	19	34	18
Total acceptances	15	4	11	12	20	6
Ratio: offers/applications	0.2544	0.2069	0.1736	0.3800	0.2282	0.3333
Ratio: acceptances/offers	0.5172	0.6667	0.4400	0.6316	0.5882	0.3333

Mathematics starts with a reasonable proportion of female UGs (45% in 2012-13); however, there is attrition of women from UG to PGT and particularly from PGT to PGR (Figure 5). This does not appear to be based on any bias in our application process but reflects the smaller proportion of women applying (Figure 6). The proportion of our PGR students who are women has increased steadily in the period examined but is still below the national benchmark (Figure 5). Our website and student recruitment material will be updated to include a diverse range of student profiles and details of our Women in Science activities (**Action: 2.1**). We will introduce outreach activities targeted at girls (**Action: 2.2**) and continue to hold an annual event to encourage our taught students to consider PhDs (**Action: 2.4**).

Physics student numbers and applications

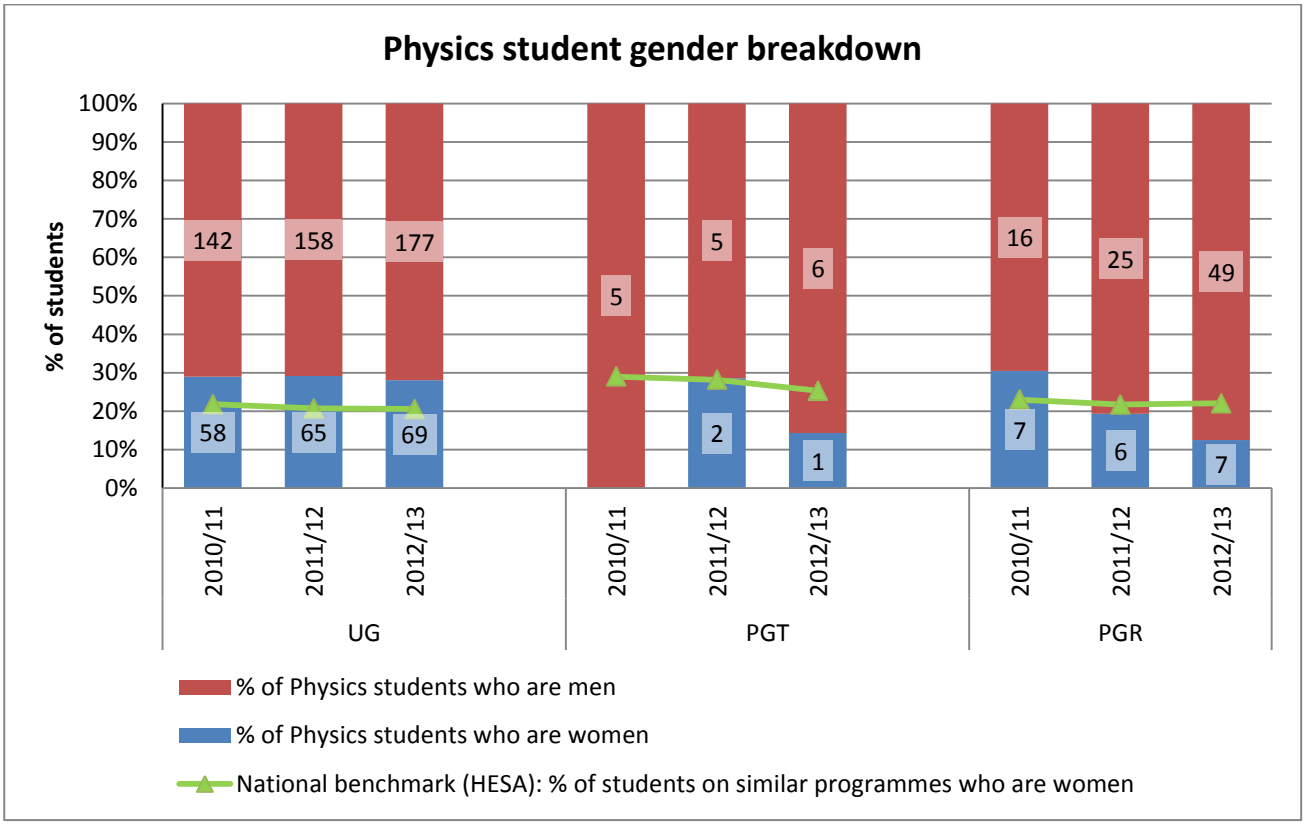


Figure 6: Bars show % of Physics students who are women/men and are labelled with absolute numbers. Lines show national benchmark: % of students on similar programmes in the UK who are women.

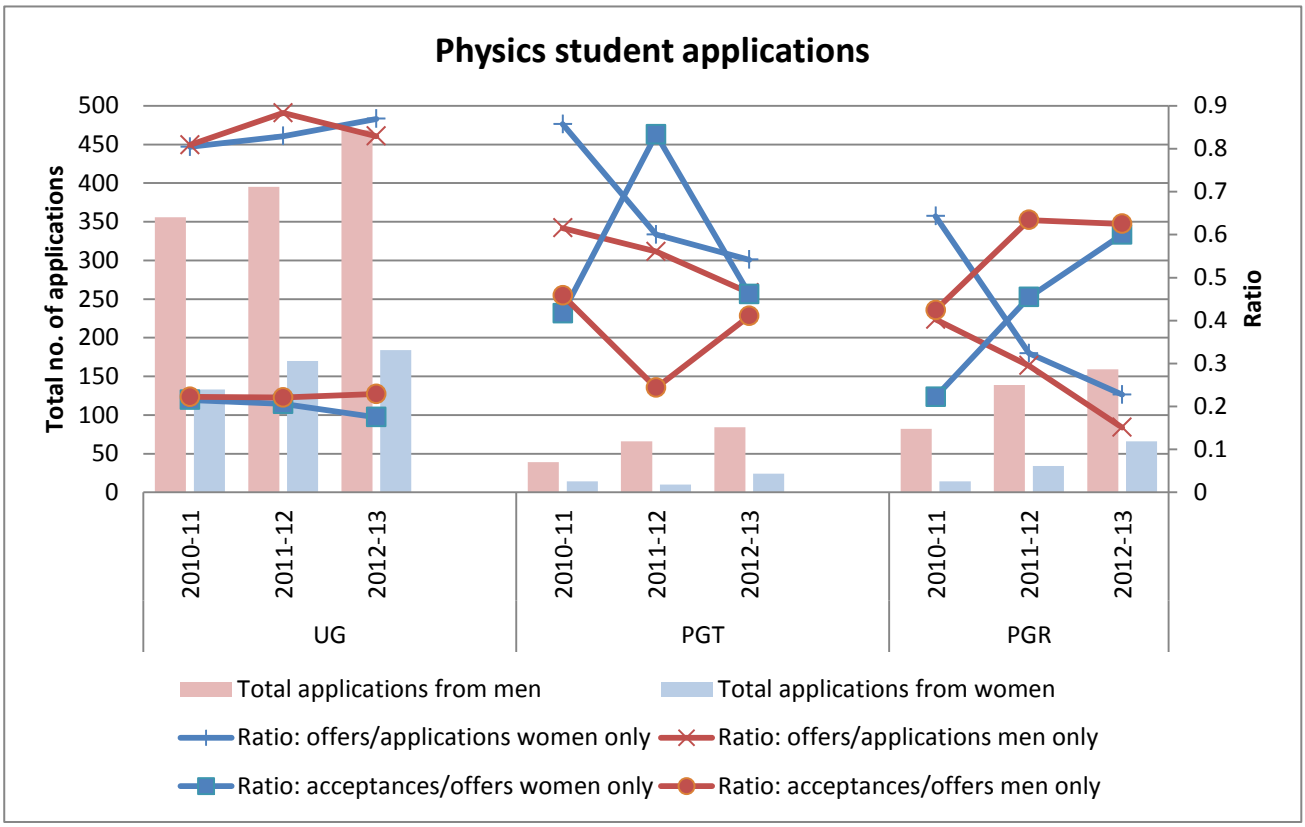


Figure 7: Bars show total numbers of student applications made to Physics. Lines show ratio of offers to applications and ratio of acceptances to offers, for men and women.

Physics UG student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	356	133	295	170	469	184
Total offers	288	107	349	141	389	160
Total acceptances	64	23	77	29	89	28
Ratio: offers/applications	0.8090	0.8045	0.8835	0.8294	0.8294	0.8696
Ratio: acceptances/offers	0.2222	0.2150	0.2206	0.2057	0.2288	0.1750

Physics PGT student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	39	14	66	10	84	24
Total offers	24	12	37	6	39	13
Total acceptances	11	5	9	5	16	6
Ratio: offers/applications	0.6154	0.8571	0.5606	0.6000	0.4643	0.5417
Ratio: acceptances/offers	0.4583	0.4167	0.2433	0.8333	0.4103	0.4615

Physics PGR student applications

	2010-11		2011-12		2012-13	
	Men	**Women**	**Men**	**Women**	**Men**	**Women**
Total applications	82	14	139	34	159	66
Total offers	33	9	41	11	24	15
Total acceptances	14	2	26	5	15	9
Ratio: offers/applications	0.4024	0.6429	0.2950	0.3235	0.1509	0.2273
Ratio: acceptances/offers	0.4242	0.2222	0.6341	0.4545	0.6250	0.6000

While higher than the national benchmark, the proportion of our Physics UG students who are women is low (28% in 2012-13) (Figure 7). Since the total number of Physics PGT students is very small (< 8), we cannot draw any conclusions from the PGT data. It is worrying to see that as the number of Physics PGR students is increasing, the proportion of those who are women is decreasing and has dropped to 13% in 2012-13, well below the national benchmark of 22% (Figure 7). We see no evidence that this is due to any bias in our applications process, but rather reflects the small number of female applicants (Figure 8). We will introduce outreach activities targeted at girls (**Action: 2.2**), update our website and student recruitment material (**Action: 2.1**), and continue to hold an annual event to encourage our taught students to consider PhDs (**Action: 2.4**).

Student classifications data

Since our Chemistry UG programme has only been running since 2012, we have no classification data for Chemistry. We will continue to monitor Chemistry student data and formulate actions to address any issues that arise.

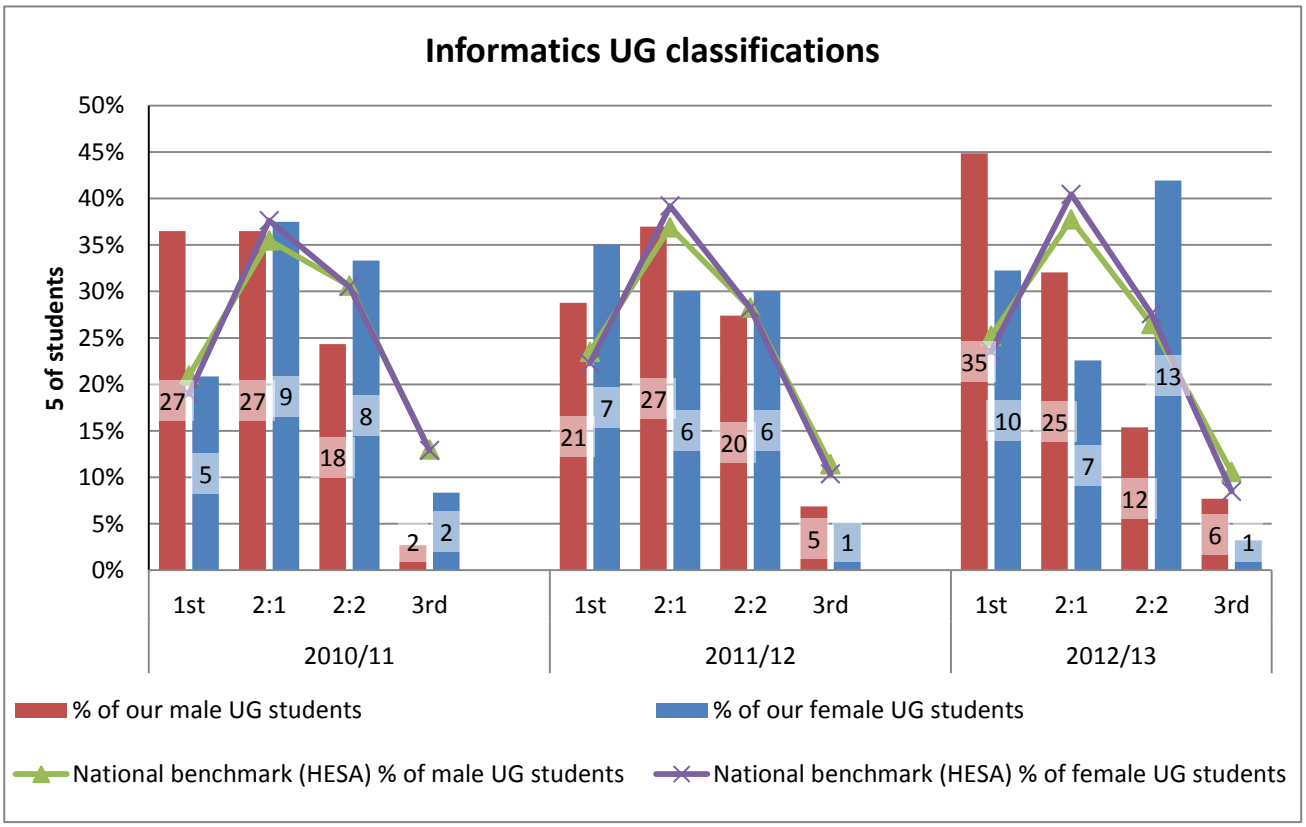


Figure 8: Bars show % of our classifying Informatics students who achieve each grade, and are labelled with absolute numbers. Lines show national benchmark: % of all classifying students in UK on similar degrees who achieve each grade.

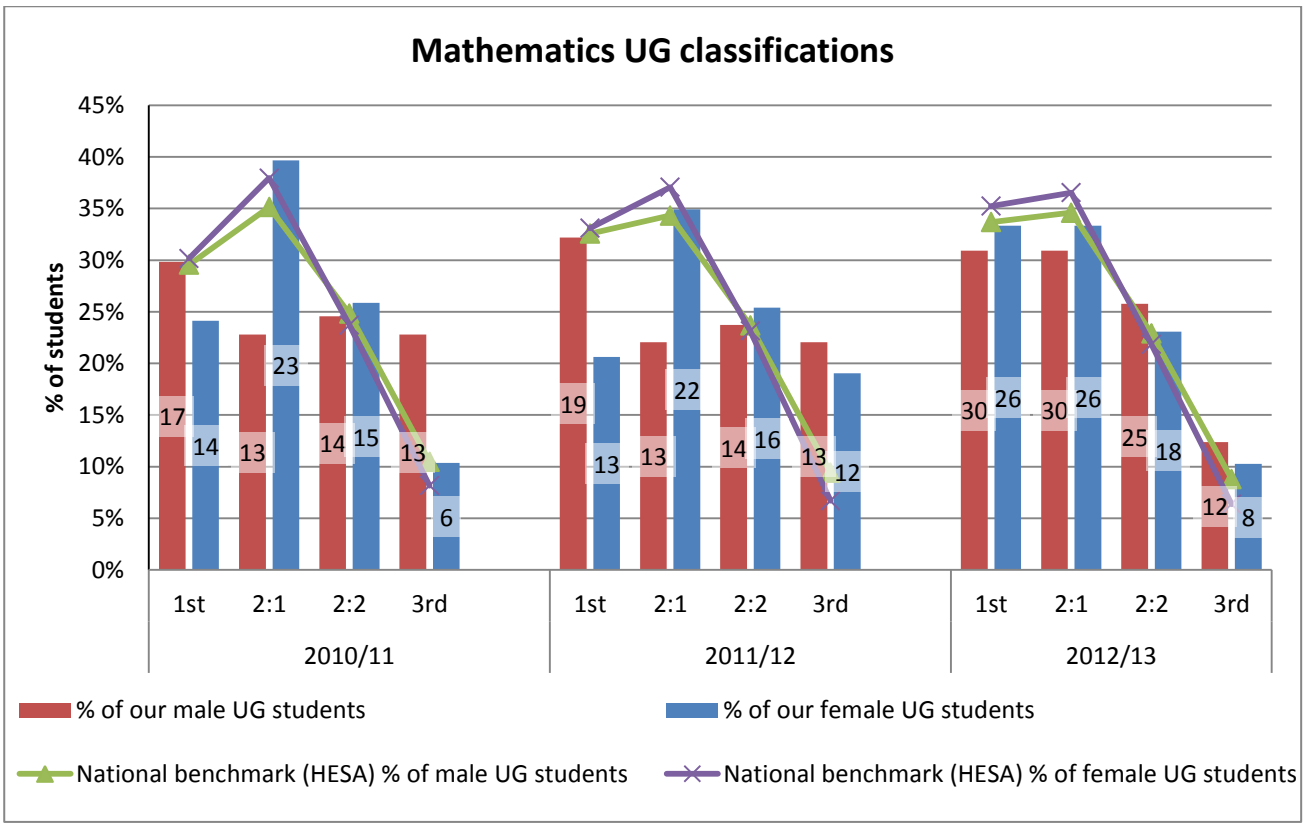


Figure 9: Bars show % of our classifying Mathematics students who achieve each grade, and are labelled with absolute numbers. Lines show national benchmark: % of all classifying students in UK on similar degrees who achieve each grade.

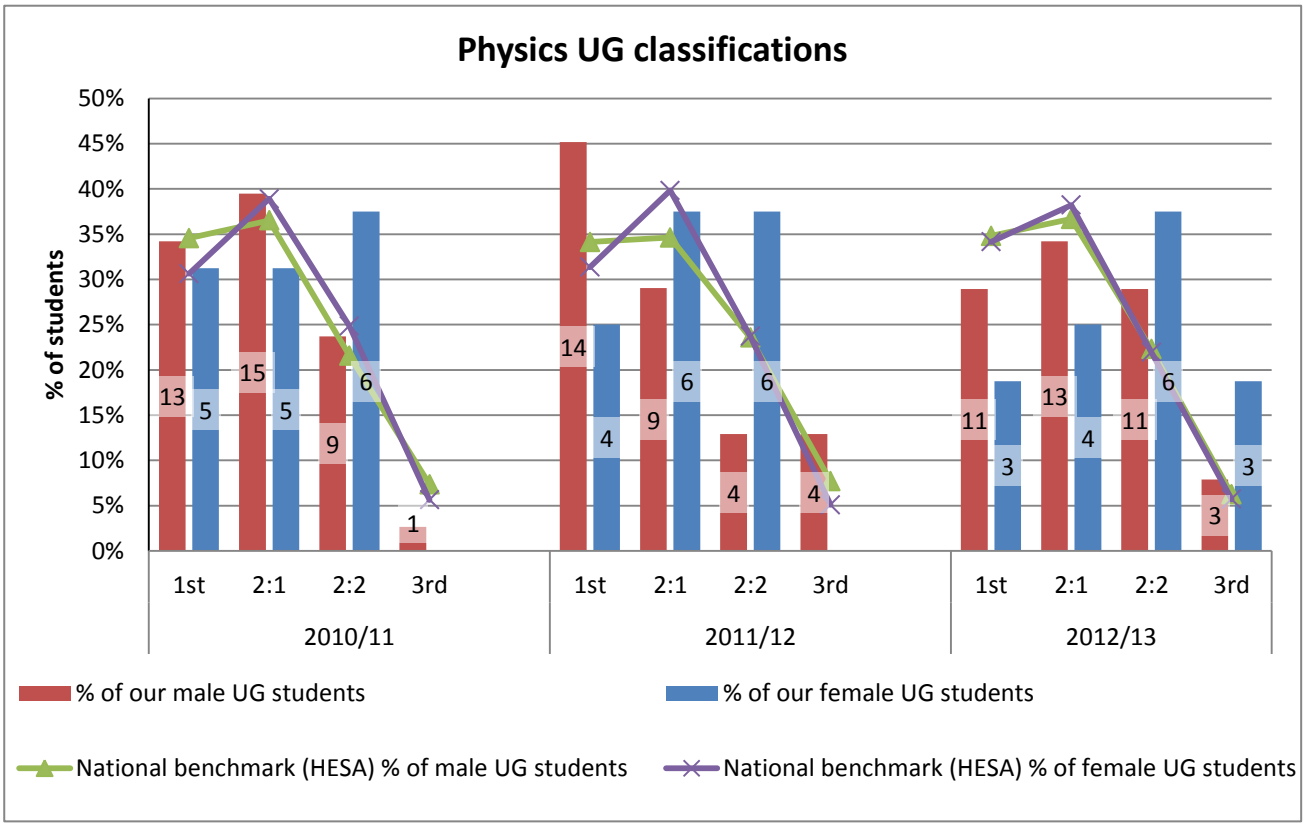


Figure 10: Bars show % of our classifying Physics students who achieve each grade, and are labelled with absolute numbers. Lines show national benchmark: % of all classifying students in UK on similar degrees who achieve each grade.

Our classification data seems to suggest that women are less likely to get the top grades than men (Figures 9-11). Further investigation (using a chi squared test for independence in a contingency table) shows that the observed difference is not statistically significant.

Our classification data only shows those students who passed; we will investigate the gender breakdown of students who dropped out/failed (**Action 1.1**).

We have been unable to get reliable classification data for our PGT students, but also want to interrogate this data in the future (**Action 1.1**).

Staff data

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

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

Benchmarking of staff data

Benchmark used is national HESA data for all institutions, extracted from HEIDI[3]; details are given in Table 3.

Department	Benchmarked against	Notes
Chemistry	2012-13: HESA cost centre 113 2010-12: HESA cost centre 11	The relevant HESA cost centres were updated in 2012. 113/11: Chemistry
Informatics	2012-13: combination of HESA cost centres 119, 120, 121 2010-12: combination of HESA cost centres 20, 21, 25	The relevant HESA cost centres were updated in 2012. 20/199: Electrical, electronic & computer engineering 21/120: Mechanical, aero & production engineering 25/121: IT & systems sciences, computer software engineering These cost centres reflect the broad range of our Informatics staff.
Mathematics	Cost centre 24	24: Mathematics
Physics	Cost centre 12	12: Physics

Table 3: Shows the HESA cost centres against which we have benchmarked our staff data.

[3] HEIDI: the Higher Education Informatics Database for Institutions https://heidi.hesa.ac.uk/

Breakdown by gender of academic and staff and research staff

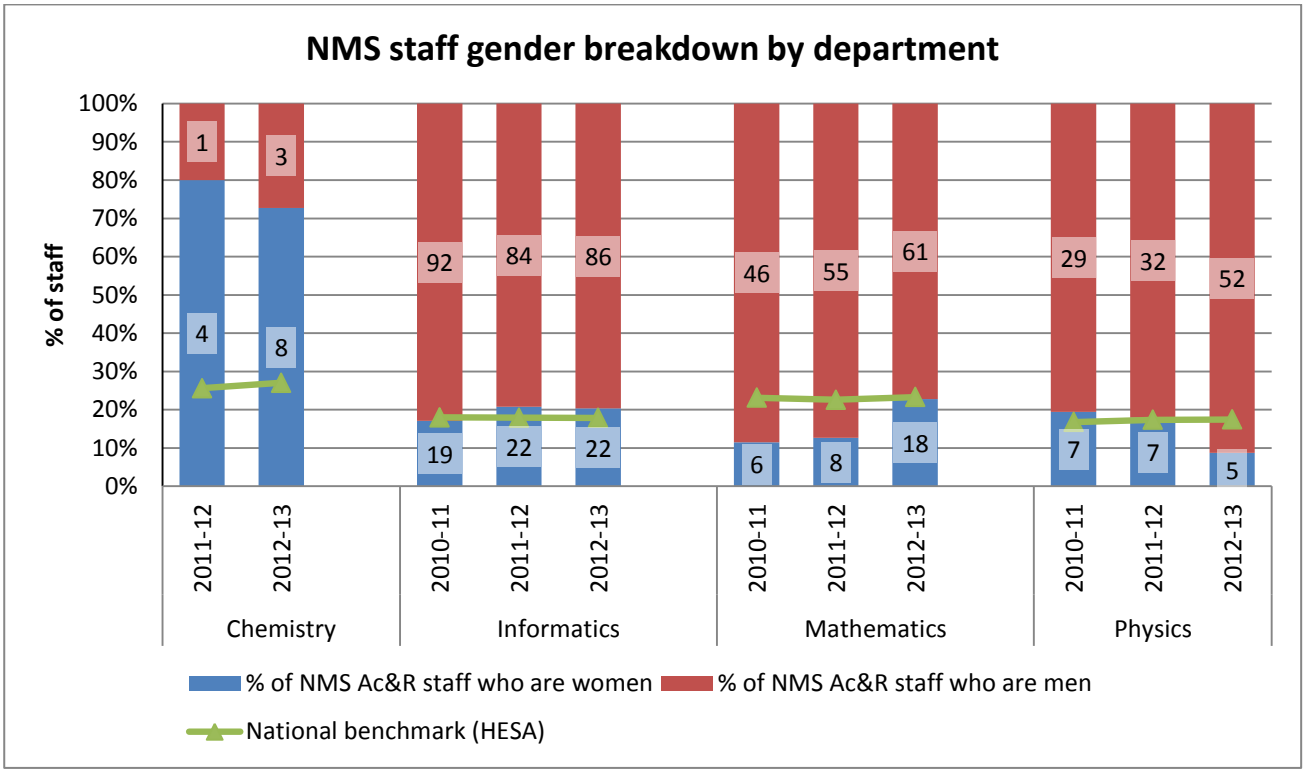


Figure 11: Bars show % of academic & research staff in each department who are men/women and are labelled with absolute numbers. Lines show national benchmark: % of academic and research staff in similar departments in the UK who are women.

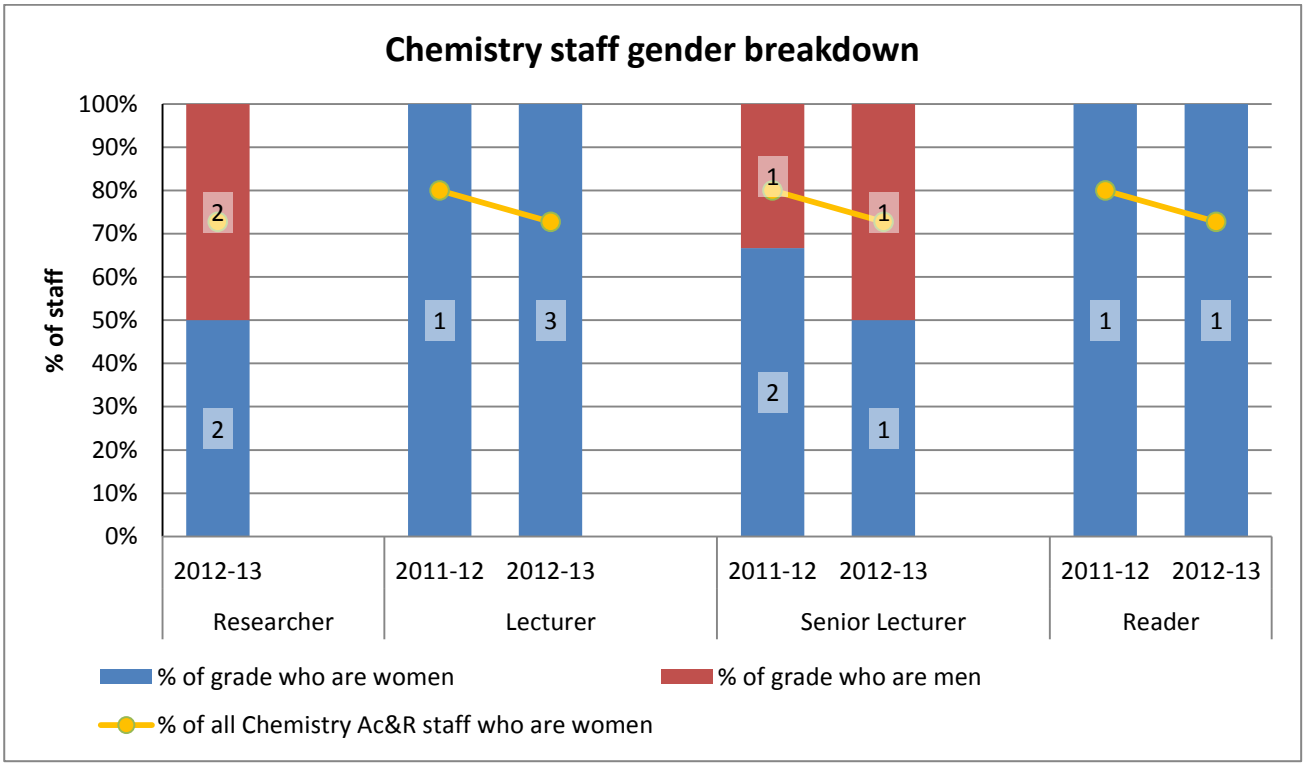


Figure 12: Bars show % of Chemistry staff at each grade who are women/men and are labelled with absolute numbers. Lines show the % of all Chemistry academic and research staff who are women, to show the expected distribution. Note, the new Chemistry department was established early in 2012 and there were no Researchers in Chemistry prior to 2012-13.

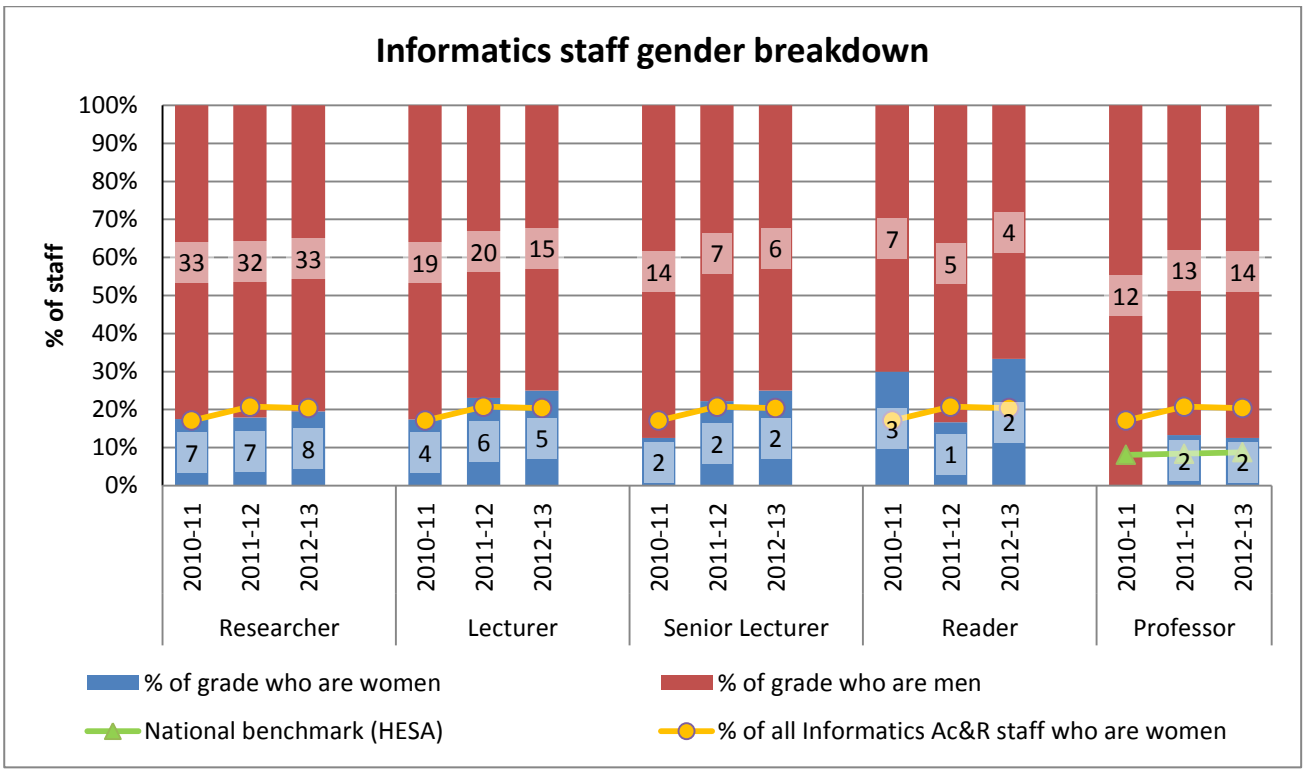


Figure 13: Bars show % of Informatics staff at each grade who are women/men and are labelled with absolute numbers. Orange lines show the % of all Informatics academic and research staff who are women, to show the expected distribution. We have benchmarked the % of Professors who are women (green line) against the % of Professors in similar departments in the UK who are women.

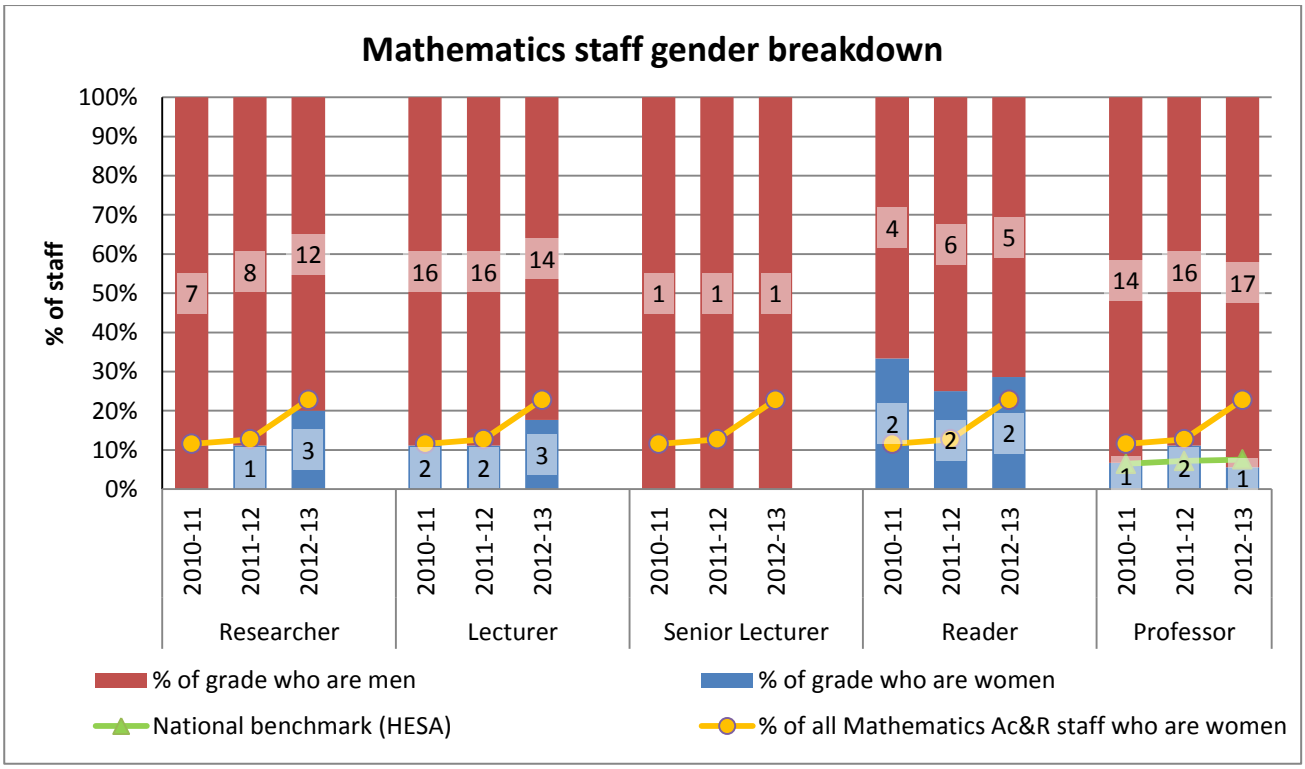


Figure 14: Bars show % of Mathematics staff at each grade who are women/men and are labelled with absolute numbers. Orange lines show the % of all Mathematics academic and research staff who are women, to show the expected distribution. We have benchmarked the % of Professors who are women (green line) against the % of Professors in similar departments in the UK who are women.

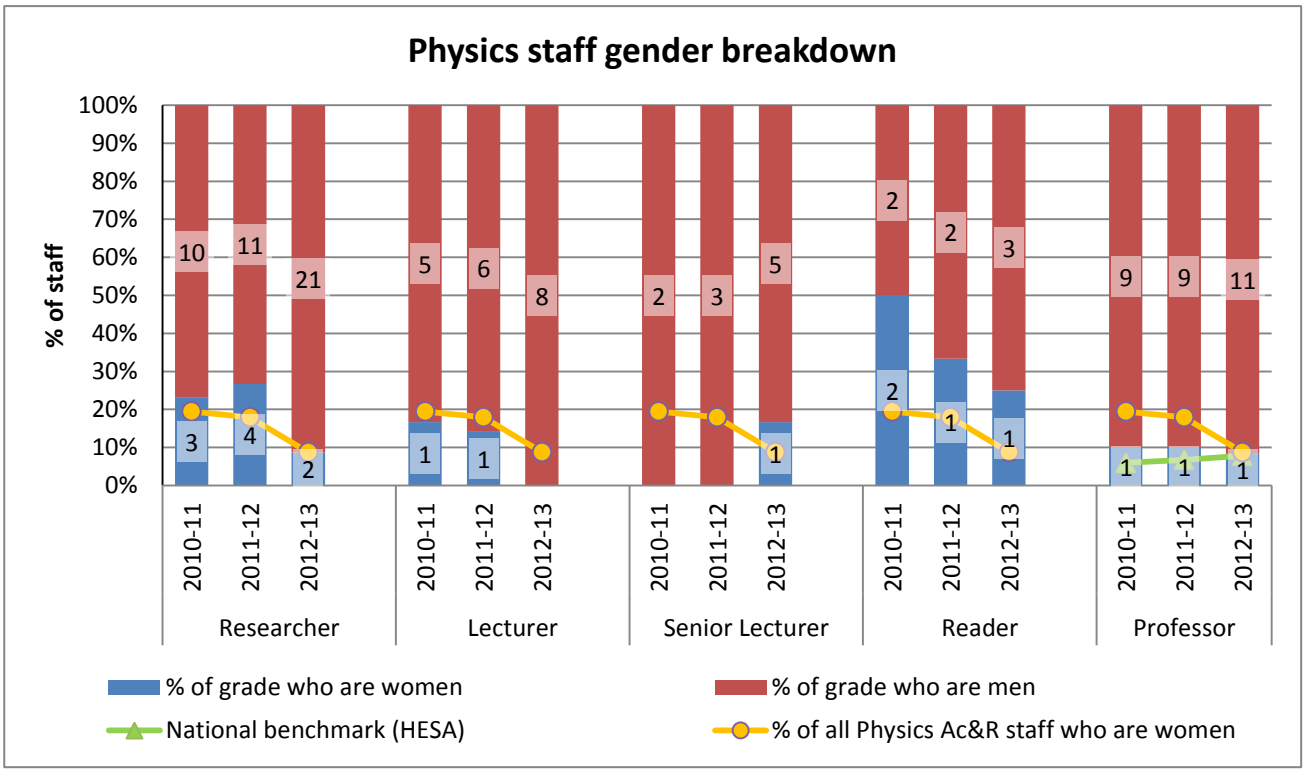


Figure 15: Bars show % of Physics staff at each grade who are women/men and are labelled with absolute numbers. Orange lines show the % of all Physics academic and research staff who are women, to show the expected distribution. We have benchmarked the % of Professors who are women (green line) against the % of Professors in similar departments in the UK who are women.

The gender balance of Chemistry staff does not appear to be an area of concern (Figures 12- 13), but given the extremely small numbers in this new department we cannot draw any conclusions from this. We will continue to monitor Chemistry staff data and respond to any issues that arise.

Women are notably under-represented in Informatics, Mathematics and Physics (Figure 12). Physics is a particular concern as the proportional representation of women in this department is decreasing with the appointment of new staff and has now dropped below the national benchmark. The under-representation of women in academic and research roles is a theme in our action plan; we consider actions to address this under *Recruitment of staff*.

In Informatics, Mathematics and Physics, although higher than the national benchmark, the proportion of Professors who are women is even smaller than might be expected given the small proportions of our staff who are women (Figures 14-16). We hope to address this issue by focussing on support for women around the promotion process and support for women in progressing their careers (two themes in our action plan); we discuss actions around this under *Support for staff at key transition points* and *Promotion and career development*.

Turnover of academic staff and research staff

Given the small numbers of leavers, we present this data at school level.

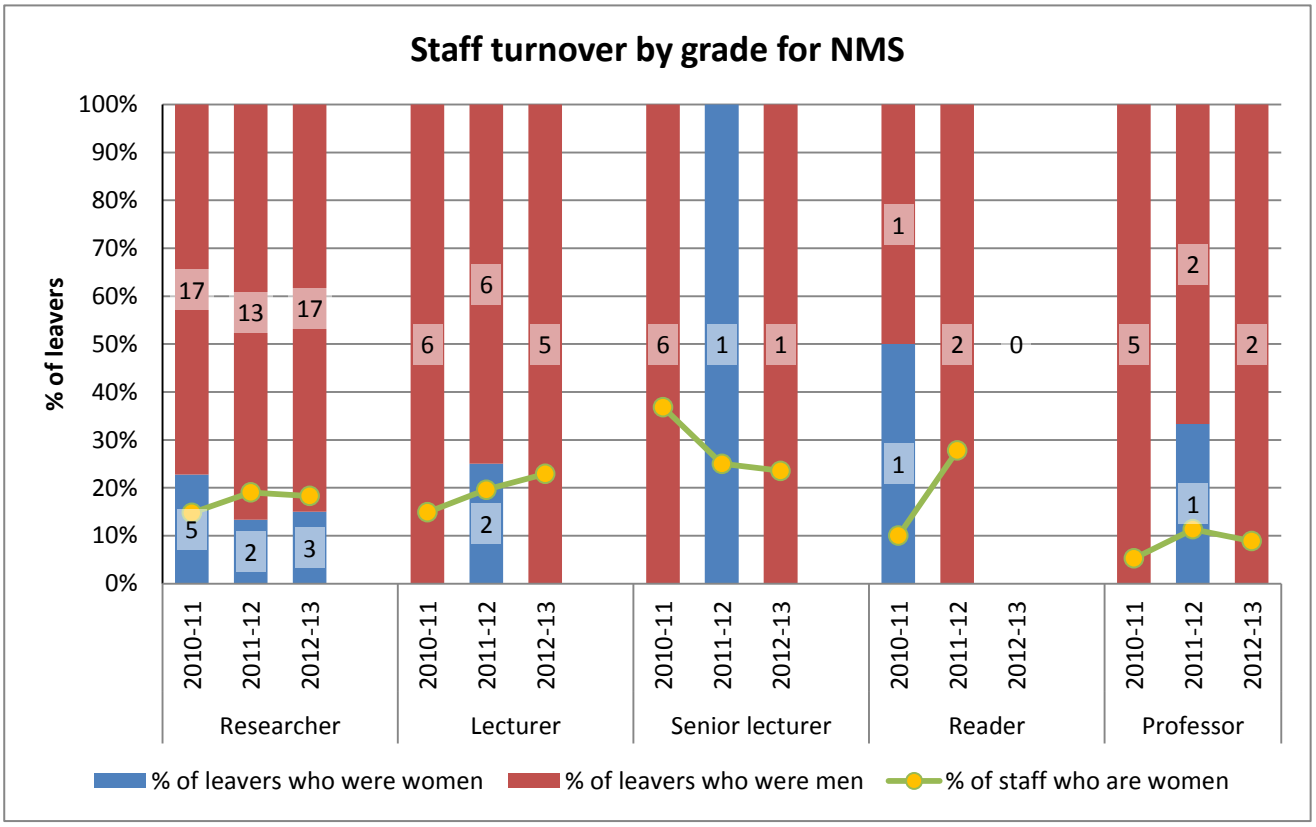


Figure 16: Bars show % of leavers at each grade who are women/men and are labelled with absolute numbers. Lines show % of staff at each grade who are women, to show the expected distribution. Note that we have not included staff who died.

It is standard for our Researchers to hold fixed-term contracts (because of fixed-term projects common in our disciplines); as expected, we see far more staff leaving in this category. The proportion of Researchers leaving who are women reflects the proportion of Researchers who are women (Figure 17). Numbers of staff leaving at academic grades are very small, so we have also examined the total numbers of staff leaving academic grades (Figure 18); this data doesn't suggest that women are more likely to leave than men.

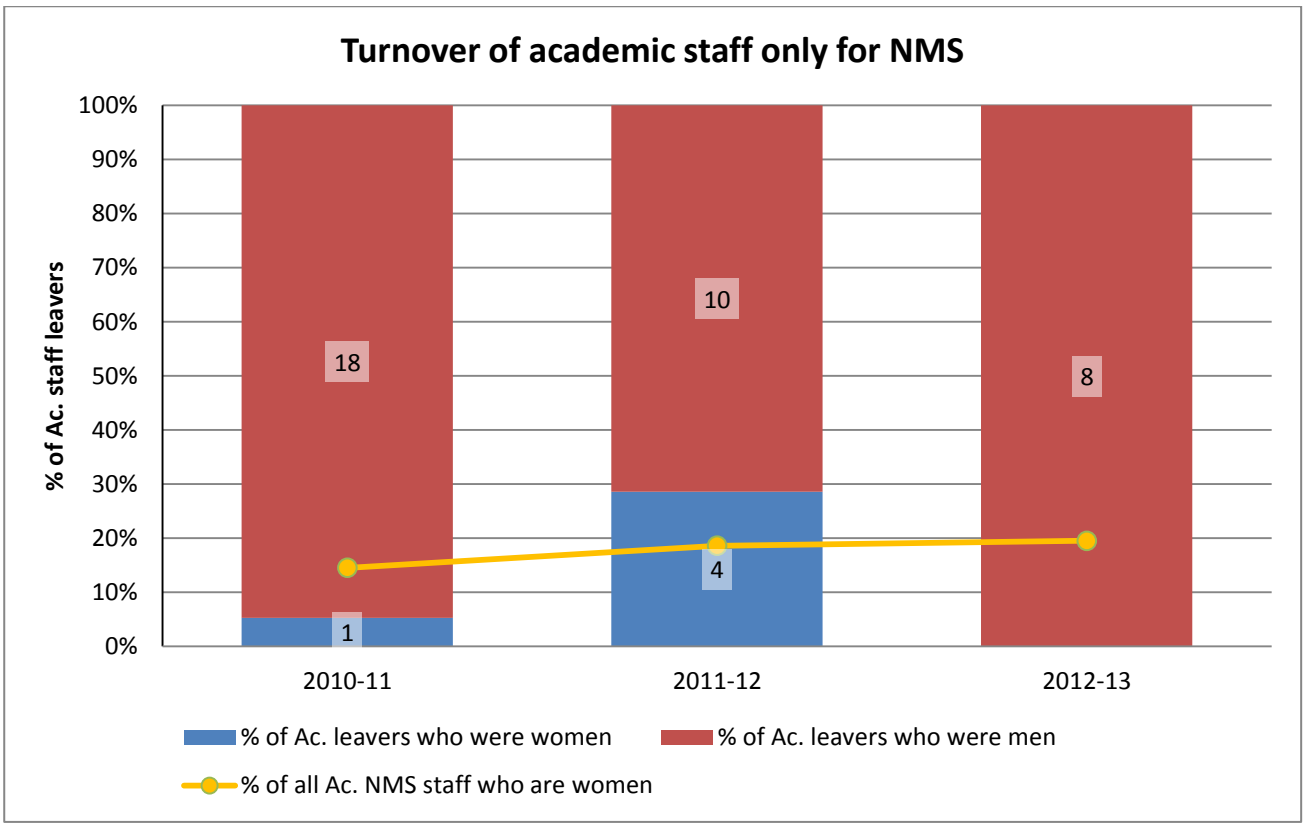


Figure 17: Bars show % of academic NMS staff leavers (i.e. not including Researchers) who are women/men and are labelled with absolute numbers. Line shows % of academic NMS staff (i.e. not including Researchers) who are women, to show the expected distribution. Note that we have not included staff who died.

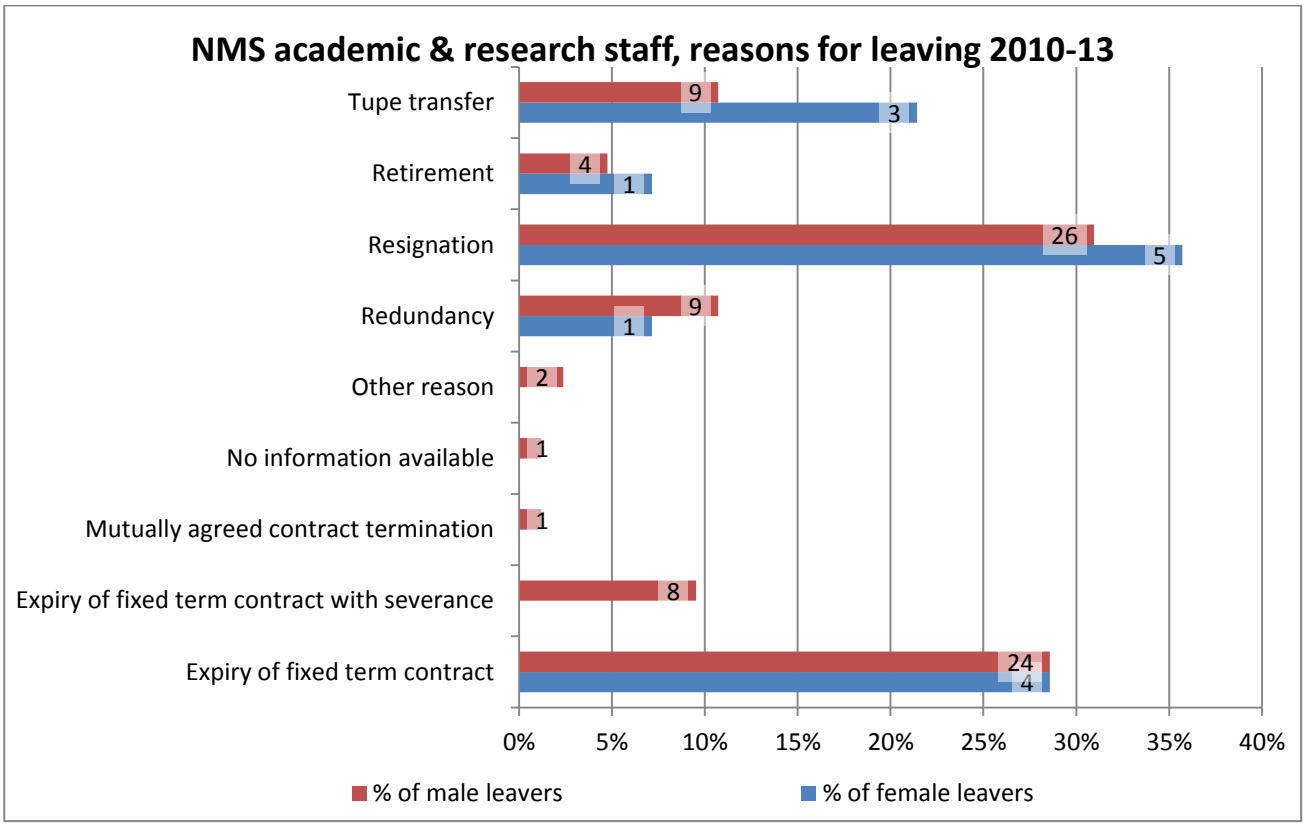


Figure 18: Bars show % of all female academic and research NMS staff who left for each reason and % of all male academic and research NMS staff who left for each reason, and are labelled with absolute numbers. Note we have not included staff who died.

We have undertaken a coarse analysis of the reasons for leaving by gender, as recorded by our Human Resources department (Figure 19), and will investigate further why eight men but no women left because of “Expiry of fixed term contract with severance” (i.e. redundancy) (**Action: 1.7**).

We currently have no formal process for conducting exit interviews, the College is introducing an online exit questionnaire this month and we will analyse results from this in the future to better understand the reasons why our staff leave (**Action: 1.4**).

NMS Pipelines

Given the very small numbers of staff and students in the new Chemistry department, we have not analysed the Chemistry pipeline.

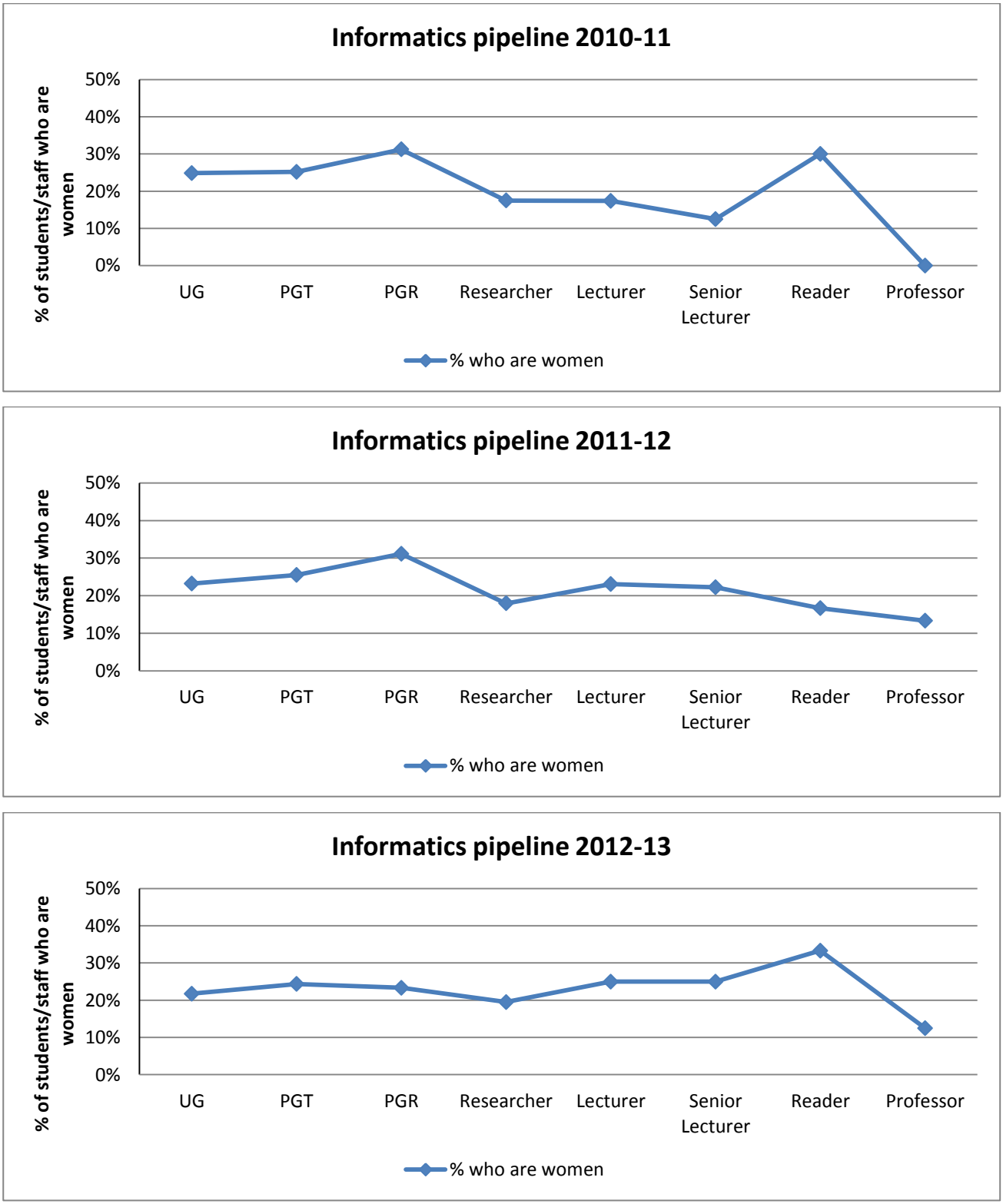
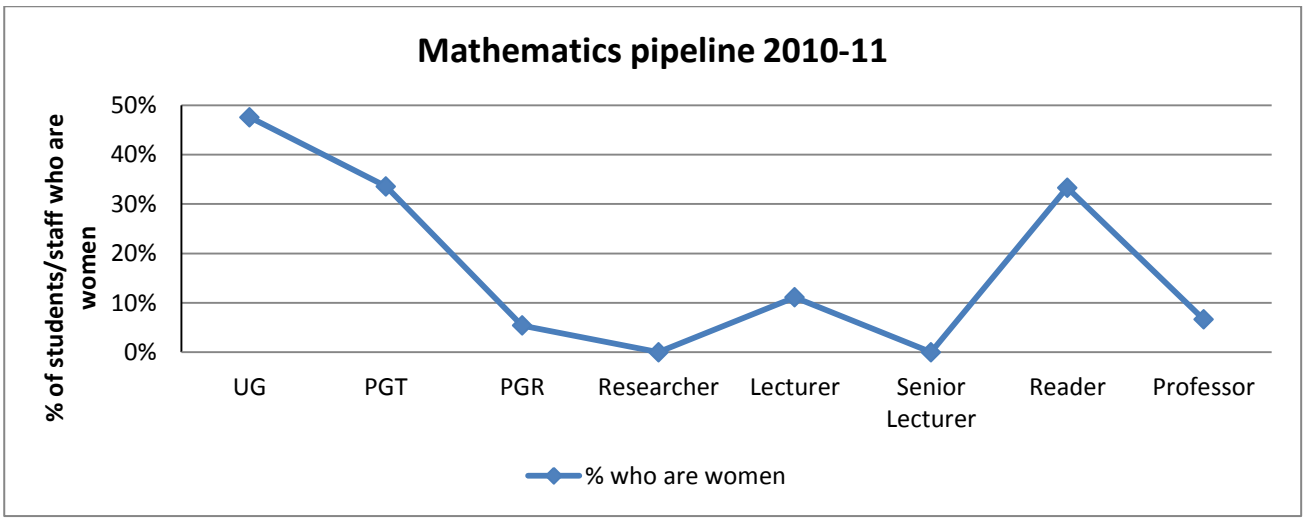
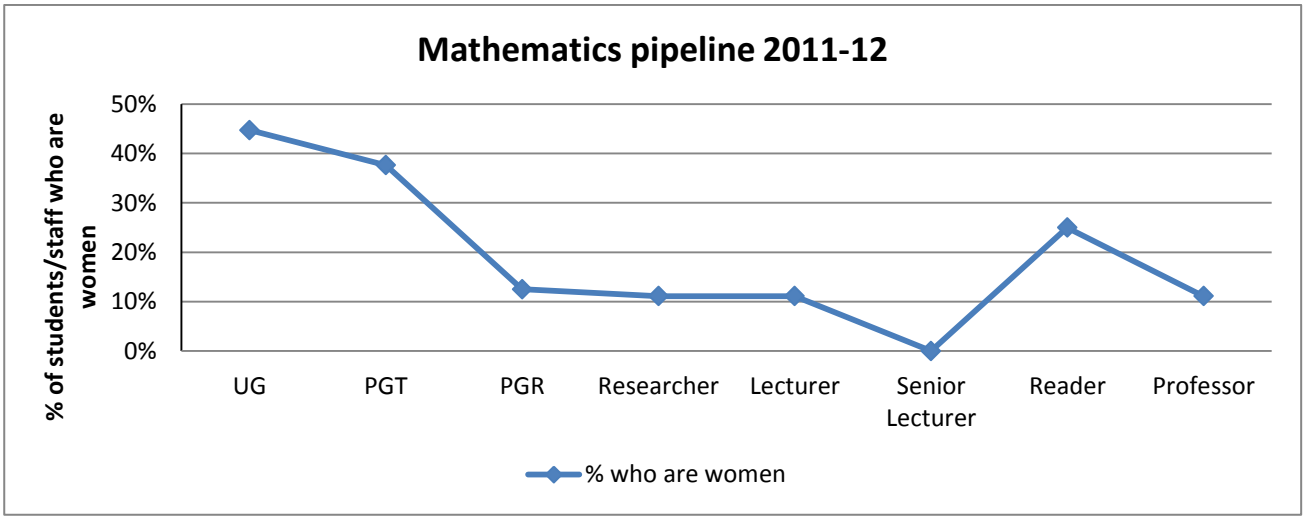


Figure 19: Informatics pipelines, showing % of staff/students at each level who are women.





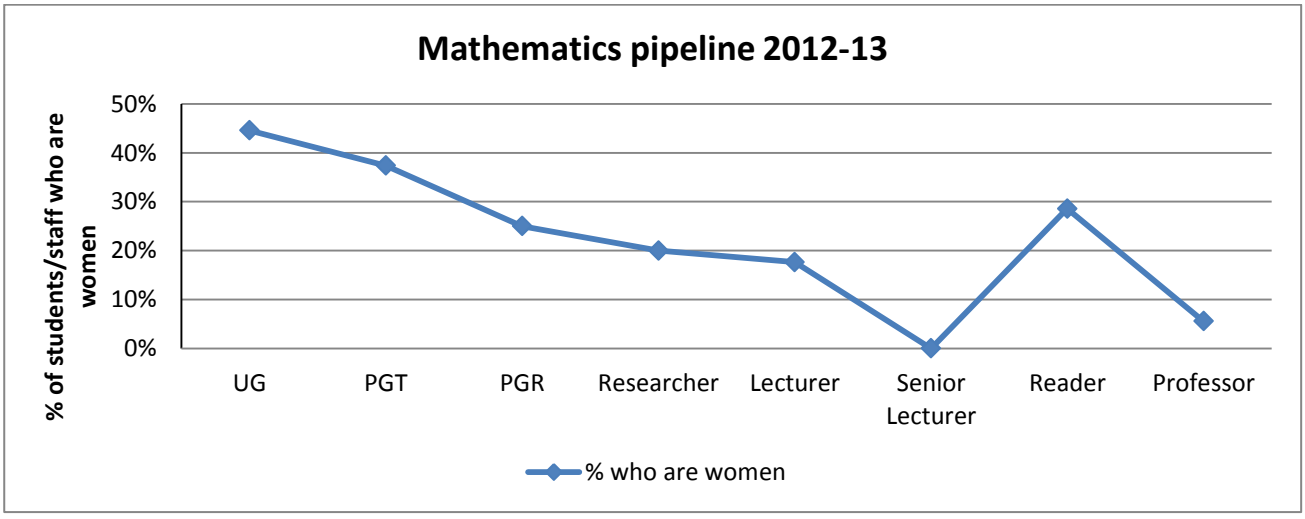


Figure 20: Mathematics pipelines, showing % of staff/students at each level who are women.

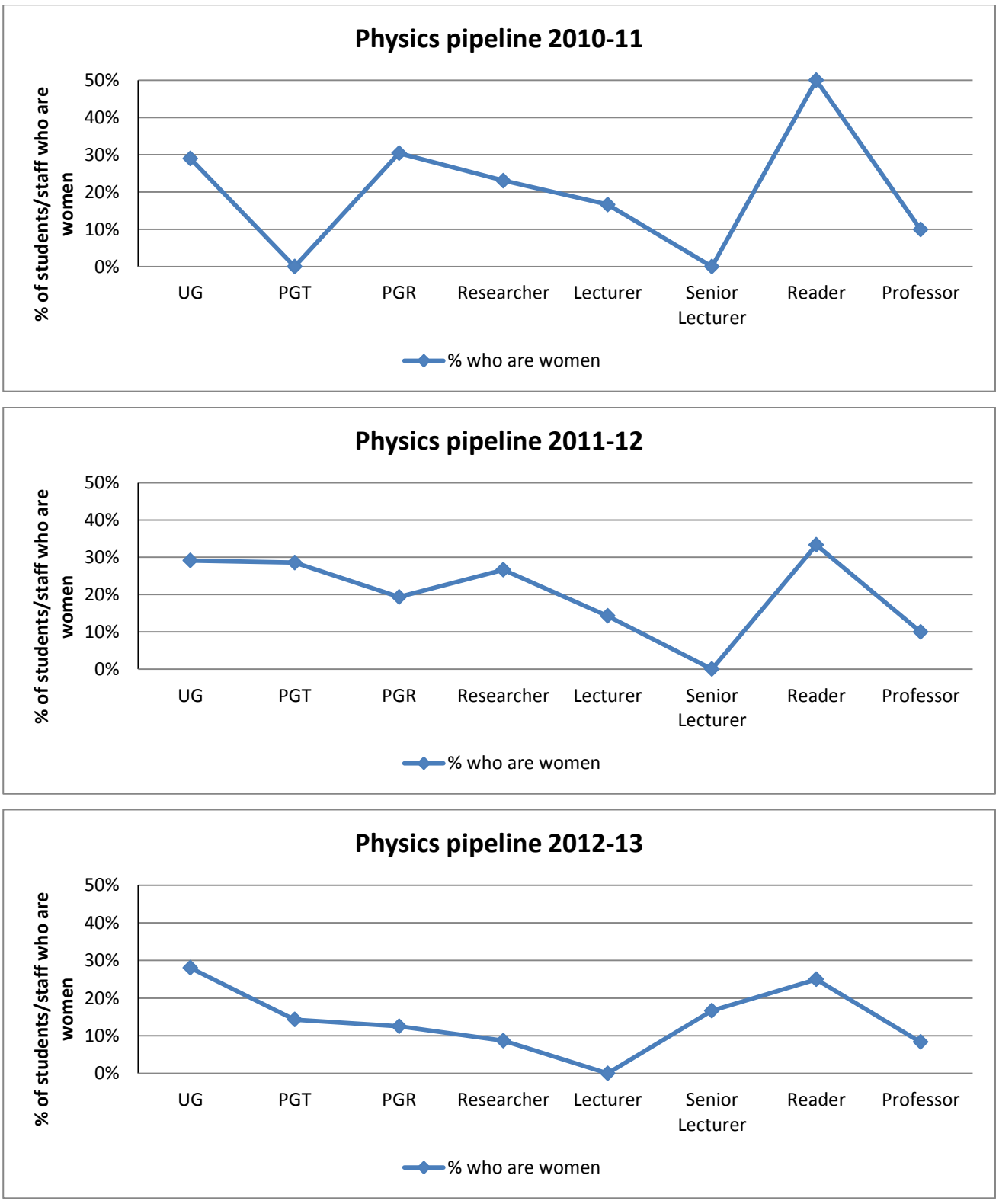


Figure 21: Physics pipelines, showing % of staff/students at each level who are women.

In Informatics, Mathematics and Physics, we see a peak in the pipeline at Reader level (Figures 20-22). We will investigate the length of time it takes for our staff spend at each grade, to see whether Reader (or any grade) is a particular sticking point for women's progression (**Action: 1.3**).

The Informatics pipeline has improved over the period; the proportion of women at Researcher to Reader levels has increased (Figure 20). We hope that as our female Readers get promoted, the tail of the Informatics pipeline will even out.

The Mathematics pipelines show a fairly significant increase in the proportion of women at PGR to Lecturer levels across the period, but still show a steady decrease in percentage of women from UG (45% in 2012-13) through to Professor (6% in 2012-13) (Figure 21). We will investigate the reasons for this through our student survey (**Action: 1.2**) and focus groups with women in Mathematics (**Action: 1.5**). We see a trough at Senior Lecturer level since it has been common in Mathematics to be promoted directly from Lecturer to Reader; there has been only one Senior Lecturer (male) during 2010-13.

In Physics, there has been a decline in the proportion of women at the PGR to Lecturer levels (Figure 22). We will investigate the reasons for this through our student survey (**Action: 1.2**) and will highlight the career support available to our PGR students (**Action: 5.13**). We will hold an annual event to inspire taught students to consider continuing as a PGR student (**Action: 2.4**). We discuss actions to increase academic applications from women under *Recruitment of staff*.

4. Supporting and advancing women's careers: max 5000 words [4975 words]

Key career transition points

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

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

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

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

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

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

Job application and success rates

As noted in our Institutional Bronze renewal, we have not previously had a mechanism in place for recording data relating to job applications and success rates by gender. The College has recently introduced a new e-Recruitment system, which will allow us to monitor the gender balance of job applications, shortlists, appointments and appointment panels (this was an action in the College's Bronze action plan submitted in April 2013). We will ensure all staff on appointment panels receive training in the new e-Recruitment system and that all relevant information is being monitored so that any issues can be rapidly identified and actions to address them incorporated into our action plan (**Action: 3.7**).

Applications for promotion and success rates by gender and grade

We present promotion data at School level, since the small numbers make it hard to preserve anonymity at department level.

It is particularly unusual for Researchers in NMS to apply for promotion. In the period 2010-13, only one male Researcher applied for promotion, who was successful. In Figure 23, we present the promotion application data for academic staff only (i.e. not including Researchers).

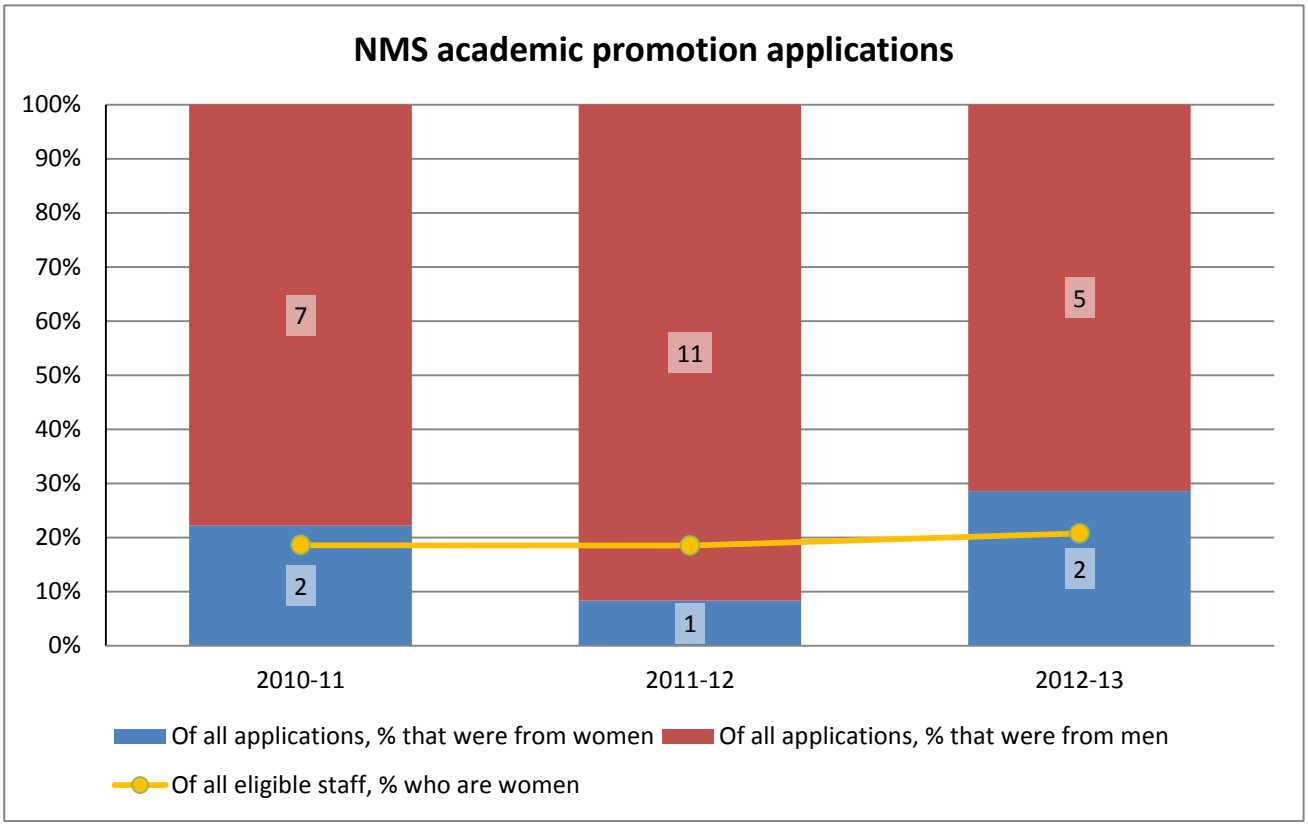


Figure 22: Bars show % of academic promotion applications that came from women/men, and are labelled with absolute numbers. Line shows % of all eligible staff who are women, to illustrate the expected proportional representation. Eligible staff are taken to be all Lecturers, Senior Lecturers or Readers. Note that we have not included Researchers in this analysis, since it is very uncommon for a Researcher to apply for promotion.

The proportion of women applying for academic promotion reflects the proportion of our academic staff who are women (Figure 23). All of the five women who applied for academic promotion in 2010-13 were successful (100% success rate) and 21 of the 23 men who applied were successful (91% success rate). Although this data analysis does not suggest any particular problems in this area, we are planning actions to encourage women to apply for promotion and support them in the application process; we discuss these under *Promotion and career development*.

Recruitment of staff

A review of our websites and recruitment material has highlighted a lack of information relating to what it is like to work in NMS, the support that is available and the family friendly policies we have in place. We will update our website to include profiles of a diverse range of people working in NMS, including people who work flexibly and have had managed career breaks (**Action: 3.2**).

Vacancies are advertised via jobs.ac.uk and sometimes in discipline-specific publications; staff also circulate adverts within their academic community, but no efforts are currently made to target women. Results of our staff survey show that 41% of women were encouraged to apply by a current member of NMS staff, compared with 55% of men. In future, channels will be identified for advertising vacancies that target women (**Action: 3.6**) and we will seek to identify potential female applicants who can be personally invited to apply (**Action: 3.5**).

No consideration is currently given to whether the wording of person specifications indicates any gender bias. We plan to review the person specification of all job adverts, with the aim of avoiding the use of words associated with male stereotypes (**Action: 3.4**).

In recent faculty recruitment in Physics, there has been concern over all male shortlists; in cases where no female applicant was shortlisted, all applications that could be identified as coming from female candidates were reviewed again but no changes were made. It appears that our problem is the lack of sufficient and suitably qualified female applicants. As we collect detailed data on the recruitment process from the new e-Recruitment system, we will interrogate this data to better understand where our problems lie (**Action 3.7**).

We aim always to have at least one woman on appointment panels but given the small numbers of women in NMS, this is sometimes not practical. In future, we will ensure this is the case by considering panel members from other departments where necessary (**Action: 3.3**). We will ensure that all staff on recruitment panels have received unconscious bias training (**Action: 3.1**).

Support for staff at key transition points

While there are mentoring schemes across the departments, these are not well formalised at present. We will review the current mentoring schemes and develop a School-wide scheme, drawing on good practice from the departments (**Action: 5.9**).

Seven of our NMS staff are participating in a pilot College mentoring scheme for junior academic women: four as mentors and three as mentees. We will review the usefulness of this pilot scheme and if necessary adopt a school-wide mentoring scheme specifically for female academic staff (**Action: 5.11**).

We believe that making the transition from Researcher to Lecturer is a particularly difficult time in an academic career and have identified Researchers as a priority for support. Consultation with Researchers has suggested that they can sometimes feel isolated, so we will establish a school-wide Researcher forum (**Action: 5.6**). While there is no formal mentoring scheme in place for

Researchers, the College is setting up a pilot Researcher mentoring scheme (as part of its Athena activities); we will evaluate this and establish a School level scheme if necessary (**Action: 5.12**).

Chemistry, which contains a high proportion of junior female academics, has faced particular challenges in setting up a new department and new UG programme. Chemistry staff have also faced subsequent challenges in assimilating into NMS, and analysis of the Chemistry responses to the staff survey has confirmed a feeling of isolation from NMS. This is made more challenging by various factors, including that Chemistry is not located on the same campus as the rest of NMS and there has been little senior leadership in the department until recently, with the current acting Head of Department only put in place in 2013. We have now appointed a Head of Chemistry (Professor Paula Booth) who will start in September 2014; meanwhile the Head of School will meet individually with Chemistry staff to allow them to raise any issues of concern and discuss any support they might need (**Action: 5.14**). We also plan to hold an event welcoming Chemistry to NMS (**Action: 7.8**) and will introduce School-wide termly coffee and cake mornings and an annual picnic (**Action: 7.1**).

Together with the College Athena SWAN project manager, the Head of School is developing a pilot College-wide scheme to fund childcare for academics to attend residential or out-of-work-hours activities such as conferences or sandpits, which will be managed by NMS. We will evaluate this pilot scheme and implement a School level scheme if necessary (**Action: 5.4**).

Career development

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

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

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

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

Promotion and career development

Promotions are managed at the College level, with guidance documentation giving an explanation of the criteria employed. All applications from NMS go to the College's 'Science' panel, one of two such panels for all promotion applications in the College. Heads of Groups are expected as part of the performance development review (appraisal) to encourage staff to apply for promotion where appropriate, but (as we discuss below) the appraisal process is not always followed satisfactorily. In addition, in Physics each year the Head of Department reviews all relevant staff to identify potential candidates.

Our staff survey indicates that the promotion process is not necessarily understood by staff and we have identified promotion as a particular area of concern (addressed as a theme in our action plan). Our survey shows that: 28% of women find the promotion process clear (compared with 28% of men); 22% of women find the promotion criteria transparent (compared with 17% of men); 28% of women find the criteria fair (compared with 31% of men).

We will develop clearer guidance on promotions process and criteria, to include (anonymous) case studies of promotion at each grade where possible (**Action: 4.3**). We also plan to establish a School promotion panel, responsible for encouraging staff to apply for promotion as appropriate and for providing feedback on promotion applications prior to submission (**Action: 4.2**). We will formalise the process by which the potential promotion of all staff is considered by the promotion panel each year and candidates encouraged to apply, and communicate this to all staff (**Action: 4.2**).

The King's Women's Network, a College-wide facility, runs promotions workshops. We will encourage all our female academic staff to attend this training and monitor attendance and feedback. If this does not meet our staff's needs, we will set up school level promotions training (**Action: 4.4**).

Only 41% of women with academic roles responding to our staff survey said they found the career advice at their last appraisal extremely or very useful (on a five point scale), with 12% saying they received no career advice (compared with 19% and 13% of men). We are shocked to find that 29% of women with academic roles say that had not been appraised within the past 12 months (compared with 35% of men), and will investigate this further, while at the same time putting in place stronger processes to ensure that everyone is appraised at least once a year as is required by the School and College, and that this includes discussions over plans for promotion (**Action: 4.1**).

The appraisal process for Researchers has been identified as a serious area of concern; only 20% of Researchers who responded to our staff survey say they had been appraised within the last 12 months. This is not acceptable and we will review the current appraisal process for Researchers to ensure they are appraised annually (**Action: 5.1**).

Induction and training

Only 50% of women responding to our staff survey agreed that their induction made them feel welcome (compared with 58% of men). Induction of staff varies across departments and is somewhat ad hoc, particularly for Researchers. We will introduce a buddy scheme to match new staff with a colleague who can advise on the practicalities of joining the School (**Action: 7.7**) and will review induction across the departments and formulate actions in response to this (**Action: 7.7**).

Induction of PGR students is run by the School. Informal consultations with PGR students suggest that because of their strong peer support network this is not a particular area of concern; we will investigate this more thoroughly through our student survey (**Action: 1.2**).

The Researcher Development Unit in the King's Graduate School has responsibility for providing and co-ordinating training and development opportunities for PGRs and Researchers but informal feedback tells us this is not always appropriate for members of NMS. We will review training available and address any shortcomings as necessary (**Action: 5.8**).

41% of women at an academic grade who responded to our staff survey said they felt extremely or very encouraged to take part in career development or personal development training (on a five point scale) and 35% of them thought the opportunities available were very or quite good (on a four point scale) (compared with 13% and 32% of men). 29% of women either didn't know or had no opinion about what training opportunities were available to them (compared with 29% of men). The College's Organisation Development Unit provides courses for staff on management, leadership and professional effectiveness, but a review of the School webpages shows no information about this. Information on the career and personal development opportunities will be circulated to all academic staff, included in induction material and added to the school webpages (**Action: 5.10**).

Only 33% of the women who responded to our survey found the support and advice available around funding opportunities to be good or very good (compared with 28% of men). Informatics and Physics hold mock proposal review panels that are found to be very useful, both for the author of the proposal in receiving feedback and for other staff to have experience of a panel and exposure to other proposals; this good practice will be extended across all departments (**Action: 5.7**).

Support for female students

In Chemistry, currently students are not offered the choice of a female tutor but the senior tutor is a woman; we will introduce the option to request a female tutor (**Action: 5.5**). In Informatics and Mathematics, taught students are able to request a female personal tutor; this has been taken up on very few occasions but we plan to make this more explicit by including an option to request a female tutor on the induction forms (**Action: 5.5**).

In Physics, there are insufficient female staff to allow students to request a female personal tutor; however, the department has a dedicated female tutor who students can approach if they need her support. We will investigate through our student survey whether all female students are aware of this support on offer (**Action: 1.2**) and monitor the workload of the dedicated female tutor to ensure they are not overburdened by this role (**Action: 6.6**).

Physics have recently started supporting student study groups by making a room available and providing refreshments. We will monitor attendance and feedback from these groups and adopt them in other departments if they are shown to have impact (**Action: 1.6**).

From consultation with our Women in Science student champions we received the clear message that career support for students interested in an academic career is not satisfactory. Taught students have little idea about what is involved in doing a PhD. In response, we held an event aimed at giving our taught students a taste of what is involved in an academic career. Although attendance at this event was limited (despite extensive advertising), the feedback received was very positive, e.g.: one student said she had changed her opinion on whether she would consider a career in research based on "one of the speaker's discussion of how she managed to do research and have a young family". We will continue to hold such events and aim to improve attendance (**Action: 2.4**).

The King's Careers Service is not well placed to provide advice on academic careers, and our student champions expressed a need for someone to talk to about this. We will identify sources of academic careers advice within departments, document this in PGR student handbooks and circulate to PGR students (**Action: 5.13**).

Our student champions also highlighted the lack of female role models as a serious problem and gender analysis of our seminar speakers showed a very low proportion of women, with no women at all featured in some of our seminar series. In future, gender balance of all events will be aimed for (**Action: 7.4**). We are also planning an event around Ada Lovelace day this year, celebrating the achievement of women in science (**Action: 7.6**) and are working to include profiles of all our female academics and to highlight their successes on our Women in Science webpages (**Action: 7.6**).

In 2012, the School introduced Women in Science Scholarships of £3,000 each for new female UGs and this year we held a lunch for our 14 current Women in Science Scholarship holders. This was attended by the Head of School, the Heads of Department, our VP for Arts and Sciences, and a female academic role model from each department. Feedback from the students was positive and it is felt that this is a good opportunity for the female students to network with their peers and with senior members of the College. We will continue to hold these events (**Action: 7.6**).

Organisation and culture

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

   (i) **Male and female representation on committees** – provide a breakdown by committee and explain any differences between male and female representation. Explain how potential members are identified.

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

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

   (i) **Representation on decision-making committees** – comment on evidence of gender equality in the mechanism for selecting representatives. What evidence is there that women are encouraged to sit on a range of influential committees inside and outside the department? How is the issue of 'committee overload' addressed where there are small numbers of female staff?

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

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

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

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

Male and female representation on committees

We present the current gender breakdown of our School and department committees; we don't include department exam boards, whose membership is determined by teaching assignments. Chemistry currently has only a Department Committee and an Education Committee; we have not analysed the gender breakdown of these since all staff sit on them.

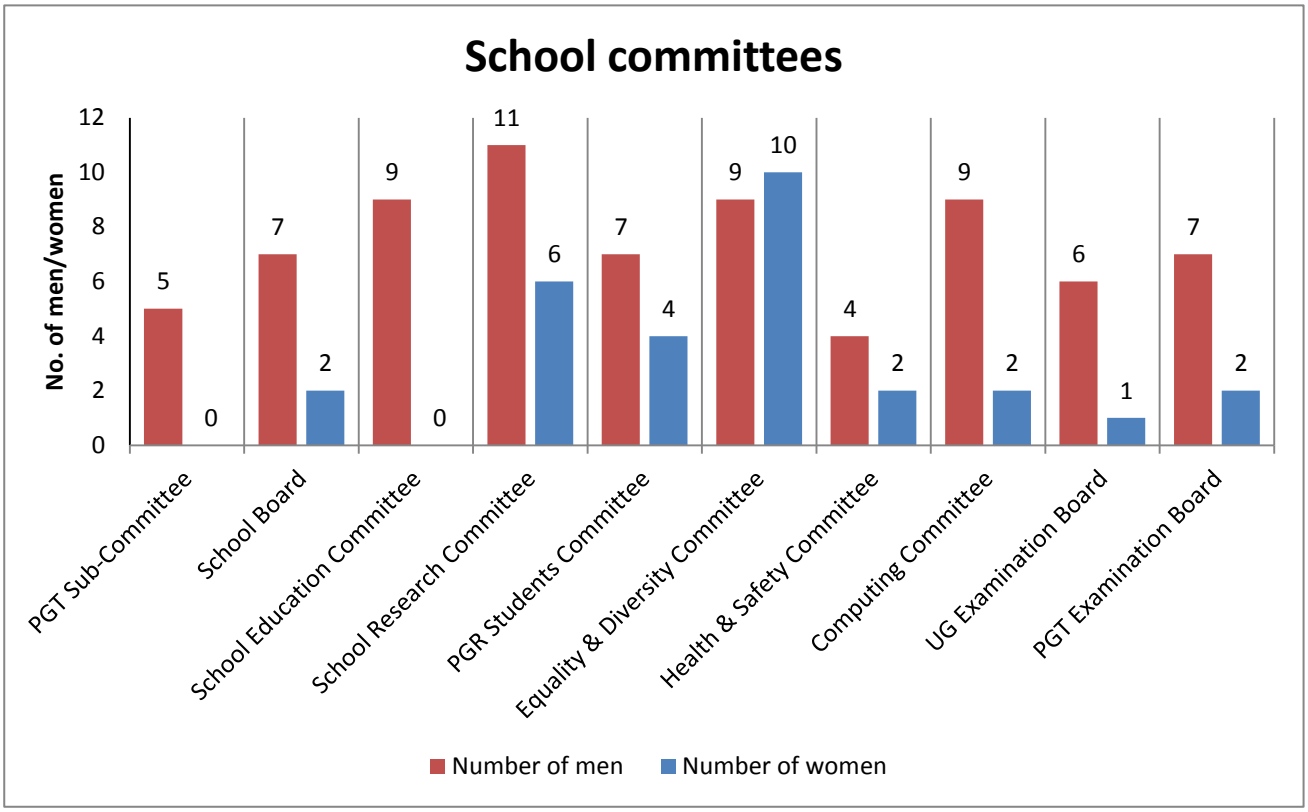


Figure 23: Bars show the current numbers of men and women who sit on our School level committees.

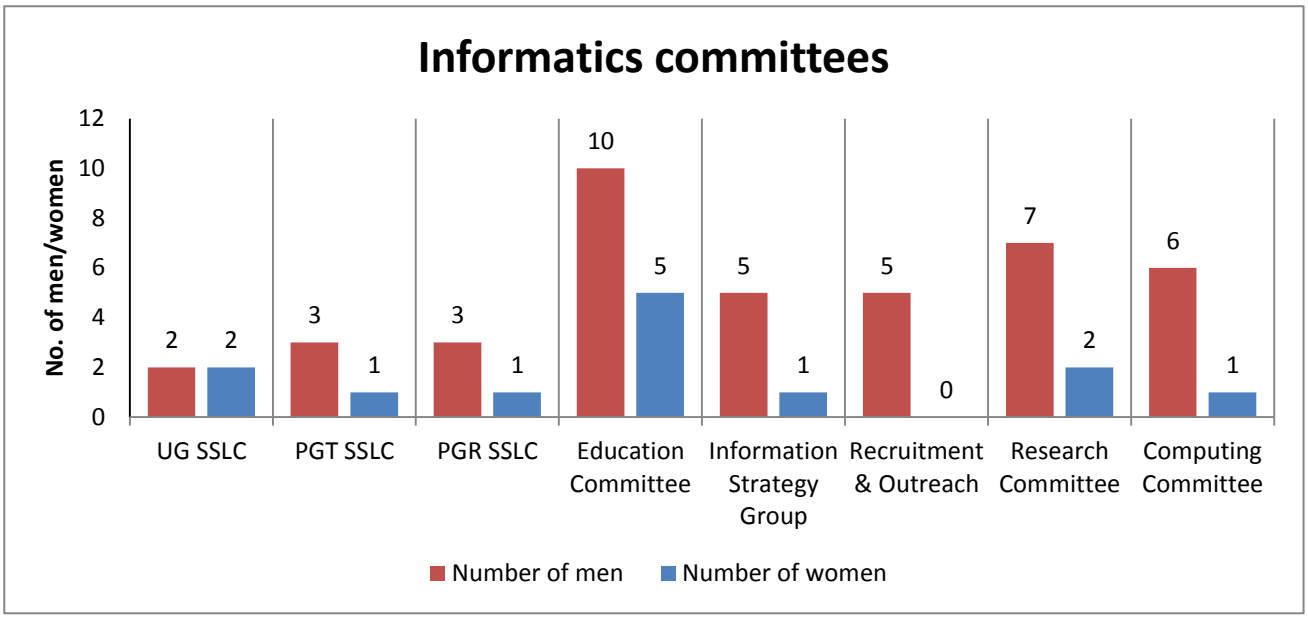


Figure 24: Bars show the current numbers of men and women who sit on our Informatics committees. SSLC is Staff Student Liaison Committee.

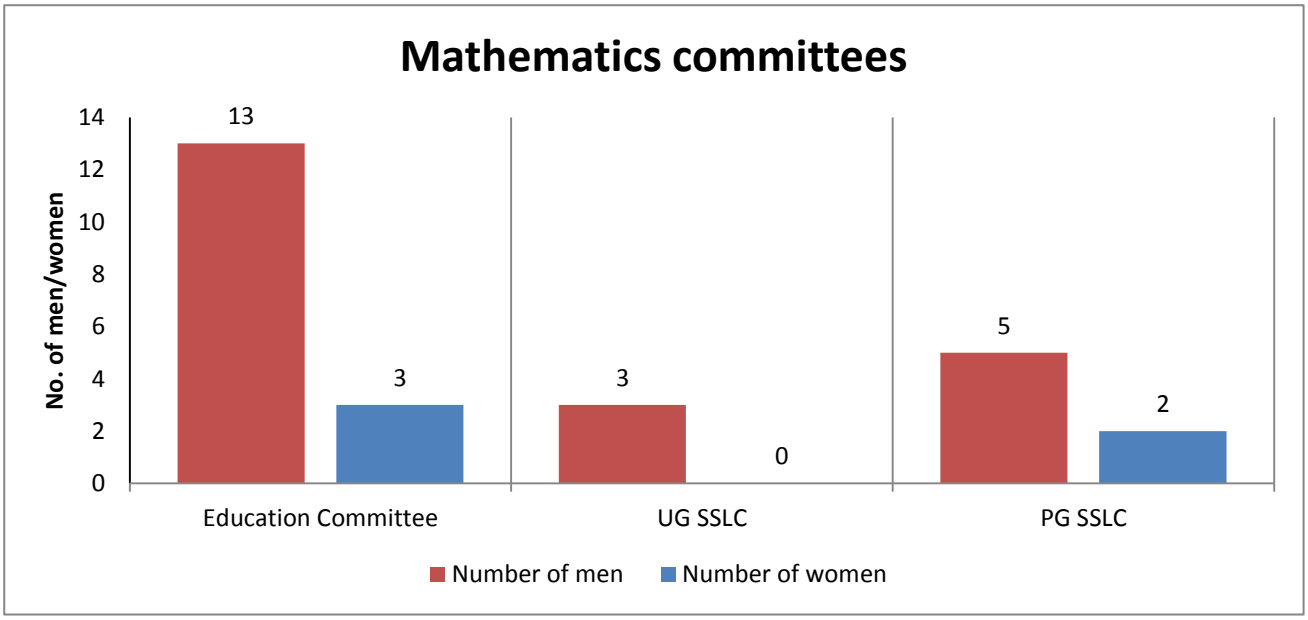


Figure 25: Bars show the current numbers of men and women who sit on our Mathematics committees. SSLC is Staff Student Liaison Committee.

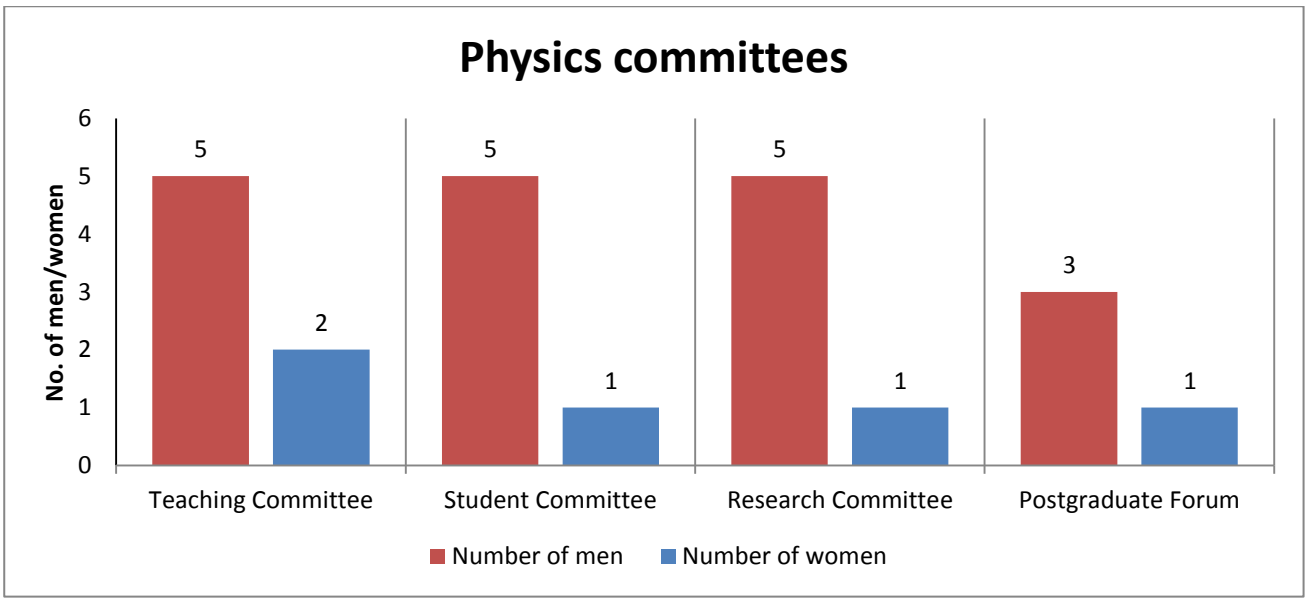


Figure 26: Bars show the current numbers of men and women who sit on our Physics committees.

There are some committees at both School and department level that have no or few female representatives (Figures 24-27). In the main, membership of committees at both School and department level is based on the various administrative roles. Committees typically have a chair and deputy chair, again determined by administrative roles. These administrative roles are allocated by the Heads of Department and are reviewed on an annual basis. It is not normally the case that chairs are required to have a particular level of seniority, except for the Research Committee where the chair is expected to be at least Reader.

The only committees that are currently chaired by women are:

School level: PGR Students Committee

Informatics: UG Staff Student Liaison Committee, PGR Staff Student Liaison Committee, Information Strategy Group

In Physics, both the UG and the MSc Exam boards are chaired by women.

We believe that it is counterproductive to insist that all committees have female representation, given the overburdening this would cause to the small numbers of women in NMS; however, we are keen to ensure that women have the opportunity to take on administrative roles that will help to progress their career. The School's Executive Board will explicitly consider the process for establishing committee membership within departments and the School; we will also seek to introduce the possibility for self-nominations to committees, with the expectation that Heads of Departments and Heads of Groups will initiate discussions with staff about which roles may be appropriate and valuable for career development (**Action: 6.3**). We will produce a description of the various administrative roles, to allow staff to better understand the responsibilities associated with them (**Action: 6.4**).

Fixed-term contracts

It is very unusual in our disciplines for a Researcher to have an open-ended contract. The only occurrences of this in NMS are for the year 2012-13: one Researcher from Informatics, one from Mathematics and one from Physics have an open-ended contract; all of these Researchers are men. These male Researchers on open-ended contracts represent a very small proportion of our research staff; however we will investigate why these men have open-ended contracts to be clear whether this is a case of gender bias (**Action: 1.7**).

Note that no academic Chemistry staff hold fixed-term contracts so they are not included in the following figure.

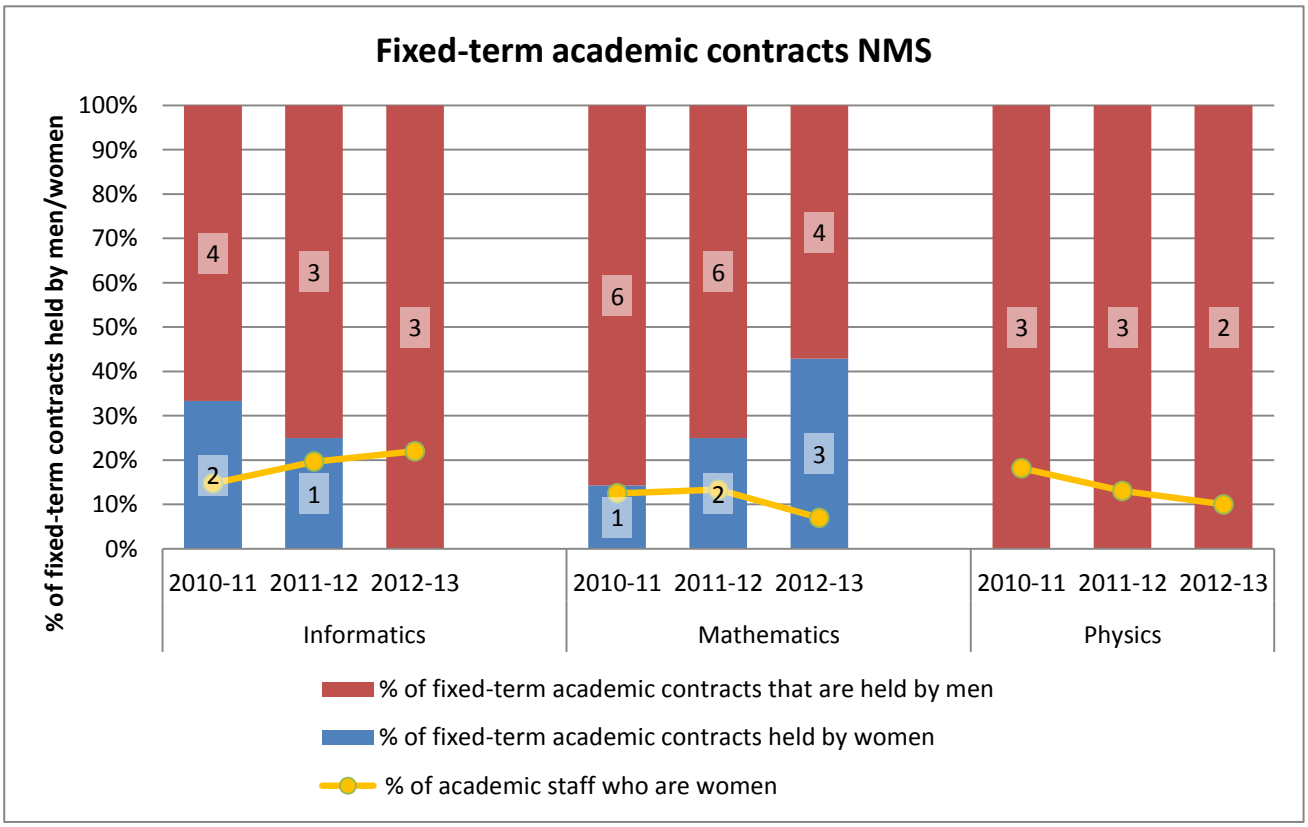


Figure 27: Bars show % of fixed-term academic contracts (i.e. not including Researchers) that are held by men/women. Lines show % of academic staff that are women, to illustrate the expected distribution. Note that Chemistry is not represented here as no academic Chemistry staff have fixed-term contracts.

The data for Mathematics shows a higher proportion of fixed-term contracts held by women than one might expect given the proportion of our staff who are women (Figure 28); however, given the small numbers here it is not possible to show that this is statistically significant.

Representation on decision-making committees

Considering our School committees as the key decision-making committees (Figure 25), we see two with no female representation: PGT Sub-Committee and the School Education Committee. As

discussed above, we believe that it is unhelpful to require women sit on all committees but are planning to review the process for determining committee membership (**Action: 6.3**).

Workload model

Workload allocation is determined by the Head of Department and achieved through the Head of Department's knowledge of all activities of staff which contribute to the life and function of the Department, including teaching, administration and supervision (PGR and Researcher) responsibilities. Given the relatively small size of our departments, the Heads have a good understanding of the staff contributions and much effort is made in trying to ensure an even distribution of workload. Workload allocation is expected to be published on our intranet but this does not always happen; we will ensure it does in future (**Action: 6.1**).

Despite the efforts made with workload allocation, 35% of the female academic respondents to the staff survey said that the way workloads are allocated is not fair (compared with 35% of men); it is recognised to be an area of concern, both by the SAT and the School Executive Board, and is addressed as a theme in our action plan.

Adopting a quantified workload allocation model is something that the established departments in NMS have been struggling with for some years; there is concern that an algorithm-based approach is unable to capture the complexity of the many facets of academic life, combined with the reality that different staff will invest in them very different levels of effort. Nevertheless, it is clear that this is an area where we need to be doing better. We plan to review workload allocation across the School and develop a more transparent workload allocation model (**Action: 6.2**).

Timing of departmental meetings and social gatherings

Department meetings are typically held within core hours of 10 and 4, but (except in Physics, where it has recently been stipulated that this must be the case) there has not been a formal policy around this. 19% of women responding to our survey did not agree that meetings and events are arranged in a way that makes it possible for the majority to attend (compared with 4% of men). In future all department and school committees will be held within core hours (10 – 4) and, wherever possible, not during school holidays; times of all department and school committee meetings will be communicated to all staff in September (**Action: 7.1**).

The College has recently introduced Saturday Open Days for prospective students; attendance of these is difficult for staff with family commitments and there is a danger of overburdening the few staff who are able to work on a Saturday. We will monitor attendance of staff at these Saturday Open Days to ensure their workload is not becoming unbalanced (**Action: 6.5**).

There are a variety of regular research events across the School. At department level these include colloquia and seminar series, and distinguished lectures. At School level these include our annual Higgs lecture and our inaugural lectures.

In the case of the distinguished and Higgs lectures, these are typically held in the evening to allow members of the public and students to attend. Videos of these events are produced but it has been noted by several members of staff with childcare responsibilities that holding them in the evening is far from ideal. Given the severe timetabling constraints in a space-limited campus, we struggle to find times for events during the day when students can attend; we plan in future to request timetabling to reserve a slot that we can use for events such as these. We also plan to announce the time and date of these events to staff at least two months in advance, so that in the case where we cannot avoid holding them in the evening, staff have ample opportunity to make childcare arrangements where necessary (**Action: 7.1**).

Many regular seminars aimed at academic and research staff are currently held in the evening, with staff invited to dinner with the speaker afterwards. We will change these to lunchtime events wherever possible (**Action: 7.1**).

Social events are typically held after 4. Apart from receptions following research events, there is little opportunity for School-wide socialising. We will introduce an annual picnic for all staff and PGR students and their families and termly coffee and cake mornings for the School (**Action: 7.1**).

Culture

The culture in the School has improved significantly in recent history. We have a supportive senior management team in place who are committed to the fair treatment of staff and students, but we still have a way to go to ensure that everyone in NMS understands the importance of supporting women in science. Given discussions with our student champions and some of our male students, we are particularly concerned that some students do not fully understand the need for action. We will include a session on unconscious bias and the importance of our Athena activities at induction of new students (**Action: 7.2**).

In 2013 we established the NMS Women in Science Initiative as a structure to communicate the work we are doing around Athena SWAN to all of our staff and students, and to the interested public. We have put in place our Women in Science Initiative webpages, which include a video of our Head of School explaining why the initiative is so important and highlights of achievements of women in NMS. These pages are featured prominently on our main NMS webpage and we plan to also link to these from the department webpages (**Action: 7.2**). We have sent our first Women in Science Initiative newsletter to all staff and students and will continue to send this twice a year (**Action: 7.2**).

Our Head of School featured as a panel member at the College's recent Inspiring Change event, part of the International Women's Day celebrations, at which he discussed the importance of what we're doing. The School also hosted a Campaign for Science and Engineering (CaSE) policy forum on improving diversity in STEM in February 2014.

We are planning an event around Ada Lovelace Day 2014, celebrating the success of women in science, and will invite an external speaker to talk at this event about the importance of supporting women in science (**Action: 7.6**). We also plan to introduce a new student prize, named

after Ada Lovelace, which recognises both academic achievement and contribution to gender equality (**Action: 7.2**).

Members of the SAT have observed on occasion that the language used by attendees at academic events such as conferences is not always appropriate and can appear to belittle women; we plan to introduce a code of conduct to be followed at events hosted by the School, drawing on the anti-harassment work of the Ada Initiative[4] (**Action: 7.3**).

Outreach activities

We believe that the biggest challenge we have in this area is to break down the stereotypes of people working in STEM subjects, which are perpetuated by the media. Given this, one of our priorities is to have more of our female staff featured as experts in the media. We have had some success this year, with Professor Maria Fox appearing on BBC Newsnight discussing the perceived threat of "killer robots" and Dr Elizabeth Black featured on BBC Radio 4 programme Something Understood about whether machines can have emotions. Each department has this year provided funding for a female academic to attend a public speaking masterclass, which aims to inspire women in STEM to take a more active and leading role in public life. Feedback from this has been very positive and we will continue to support our female staff to attend courses such as this (**Action: 2.3**).

We are involved in a variety of outreach activities, but nothing is done currently specifically to target girls. Our Women in Science student champions have expressed willingness to get involved with outreach activities. We will review the current outreach activities across the School and formulate actions to target girls (**Action: 2.2**).

In 2012, the School introduced Women in Science Scholarships for women students applying to NMS. It is not clear that these have had any impact on school girls in deciding whether to apply, and we plan to investigate the effectiveness of these scholarships by collecting feedback from the incoming students. If they are not found to be effective, we will instead use the funding to support outreach activities to specifically encourage girls to consider taking a STEM degree (**Action: 2.5**).

Flexibility and managing career breaks

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

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

[4] https://adainitiative.org/what-we-do/conference-policies/

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

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

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

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

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

Maternity return rate

In the period 2010-13, three members of NMS staff have taken five periods of maternity leave. Of these, all returned, but two left the following year (both of whom were on open-ended contracts). Since we do not currently collect exit interview data, it is hard to say whether this indicates a particular problem; this is something we will be able to investigate further in future, once our online exit questionnaire is in place (**Action: 1.4**).

Paternity, adoption and parental leave uptake

In 2010-13, 2 male members of NMS staff have taken a period of paternity/adoption leave.

Numbers of applications and success rates for flexible working

We do not formally record data relating to applications for flexible working. From our analysis of the results of our staff survey, 6% of women who responded had formally applied to work flexibly and all had their requests granted (compared with 4% of men, 80% of whom had their requests granted).

Flexible working

It is typical in NMS for people to work flexibly on an informal basis. 83% of women responding to our staff survey agreed that flexibility in working arrangements is easily available in an informal capacity and 72% of them take advantage of this either frequently or occasionally (compared with 88% and 60% of men). We don't believe this is a particular area of concern but would like to highlight this ease of flexible working (whether formal or informal) on our website, to attract more female applicants (**Action: 3.2**).

The one area that *has* been highlighted as causing problems for flexible working is the Financial Mathematics PGT programme, which involves evening lectures as it is available to part-time students. We will review the necessity of holding these lectures in the evening (**Action: 7.5**).

Cover for maternity and adoption leave and support on return

When an individual goes on maternity leave, they meet with their manager to discuss cover and arrangements for keeping in touch; they meet again to discuss support needed on their return. The College runs a parent buddy scheme, to allow staff to offer and receive mutual support and advice and share tips about managing childcare issues and workload. In 2013, the College introduced a parental leave fund, for academic and research staff working in science disciplines returning to work after a period of maternity, paternity or adoption leave; eligible staff can apply for up to £20,000 to be used to support them in their work over a period of 12 months. A review of our website shows no information relating to maternity/adoption leave or the support available; our website will be updated to highlight this information (**Action: 5.2**).

Due to the demand for the College parental leave fund in its first year, it was not possible to support everyone who was eligible, and we want to ensure such support is available to NMS staff. Maternity pay is funded from a central account at King's, so the individual's salary is available to the School for any necessary cover; it is not usually the case that the full amount of the individual's salary is needed to cover their teaching and admin duties while on leave. We plan to establish a scheme by which at least some of this saving on salary is made available to support the individual either while they are away or on their return, perhaps through funding of a Researcher to support their research while they are away, or a teaching assistant to lighten their teaching load when they return (**Action: 5.3**).

5. Any other comments: maximum 500 words [151 words]

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

Academic and research staff survey

We had a reasonable response rate from academic staff to our survey: 68% of female academic staff and 70% of male academic staff responded. The response rate from Researchers was not as high; only 33% of female Researchers and 40% of male Researchers responded. We plan to reopen the survey and specifically target Researchers to respond, by requesting supervisors to encourage their Researchers to complete the survey (**Action: 1.8**).

We are still completing our analysis of the results to our academic and research staff survey. We collected information regarding caring responsibilities, contract type and grade, and want to investigate whether these variables correlate with certain responses to the survey. We will produce a report of the survey analysis and circulate this to all staff (**Action: 1.9**). The main findings of our initial coarse analysis of the survey responses are included and responded to throughout this application.

School of Natural & Mathematical Sciences, King's College London

Athena SWAN Bronze action plan 2014 – 2017

Introduction

The action plan sets out the activities the School will undertake to address the issues identified in the Bronze award self-assessment submission. The implementation of the action plan will be supervised by the NMS Equality & Diversity Committee (which acts as our self-assessment team). A report on the progress against the action plan activities will be produced on a biannual basis, to be published on the School's Women in Science Initiative website and highlighted in the School's Women in Science Initiative newsletter. The action plan will support and underpin the School's commitment to promoting gender equality.

Actions have been listed under the following themes and given in order of priority for each theme.

1. Further research and analysis needed
2. Under representation of women at UG, PGT and PGR level
3. Under representation of women in academic and research posts
4. Support for women around the promotion process
5. Support for women in progressing their careers
6. Workload allocation
7. Changes to culture

We have established three working groups (WGs) to drive some of our actions forward: Student WG, Recruitment WG, Early career researcher WG. These WGs are sub-groups of our SAT and, where possible, contain cross-department representation.

1. Further research and analysis needed

Ref	Action	Responsibility	Target	Timescale	Progress to date
1.1	Collection and analysis of further quantitative data: - Collect and analyse data the relating to our part-time students. - Collect and analyse data that shows gender breakdown of UG students who dropped out and who failed. - Obtain and analyse good quality classification data for our PGT students that includes information on who dropped out and who failed.	College central student data services (who must provide this data), Data Analyst, E&D Champion	- Any issues relating to the part-time students identified and actions to address these incorporated into action plan. - Any statistical difference in number of male and female UG students who drop out or fail identified and actions to address this incorporated into action plan. - Any statistical difference in performance of male and female PGT students or numbers who drop out or fail identified and actions to address this incorporated into action plan.	Data obtained by September 2014. Analysis complete and reported to E&D Committee meeting in December 2014. Any necessary actions incorporated by February 2015.	None
1.2	Survey all our taught and research students with the following aims: - Identify any problems they perceive. - Ensure they are aware of the support available to them. - Identify any support they need. - Better understand their perceived barriers to a research career. - Understand their perception of our Women in Science activities.	Student WG	Report produced analysing the responses to the survey and circulated to all staff and students. Actions formulated to address any issues that had not already been identified and incorporated into action plan.	Survey complete by May 2014. Report circulated by September 2014. Any necessary actions incorporated by November 2014.	Draft survey produced.

1.3	Investigate length of time spent by staff at each grade, to see whether it takes women longer to get promoted.	Data Analyst, E&D Champion	Report produced. Actions formulated to address any issues that had not already been identified and incorporated into action plan.	Reported to E&D Committee meeting by January 2015. Actions incorporated into action plan by March 2015.	None
1.4	Monitor and analyse responses to online exit questionnaire.	School Business Manager	Any issues will be rapidly identified, and actions to address these will be formulated and incorporated into action plan.	Collection of responses to exit questionnaire will begin in May 2014. These will be analysed annually each September or more frequently if number of responders warrants it.	None
1.5	Focus group with female academic and research staff from Mathematics to investigate why we see a decrease in the % of women across the Mathematics pipeline.	E&D Champion	Actions formulated to address any issues that had not already been identified and incorporated into action plan.	Focus group to be held in September 2014. Actions incorporated into action plan by December 2014.	None.
1.6	Monitor attendance at and feedback from student study groups in Physics. Adopt across NMS if shown to have impact.	Head of Physics, Student WG	Feedback shows positive feedback on female students.	Reported on to E&D Committee in December 2014. Adopted across NMS by January 2014 if shown to have impact.	In place in Physics
1.7	Investigations arising from current quantitative data: - Investigate why 8 men whose fixed term contracts expired received severance but no women did. - Investigate the justification for the regular research contracts that are held only by men in NMS.	E&D Officer, E&D Champion	Any issues identified and actions to address or embed these incorporated into action plan.	Investigation complete and reported to E&D Committee meeting in June 2014. Any necessary actions incorporated by July 2014.	None
1.8	Reopen academic and research staff survey with aim of improving response rate from research staff	E&D Champion, E&D Officer, Heads of Departments	Over 60% response rate from female research staff. Actions formulated to address any issues that had not already been identified and incorporated into action plan.	Survey reopened in May 2014. Any necessary actions incorporated by July 2014.	None

1.9	Complete analysis of results from academic and research staff survey and produce report on this.	E&D Champion, E&D Officer, E&D Data Analyst	Actions formulated to address any issues that had not already been identified and incorporated into action plan.	Report circulated to all staff by August 2014.	Analysis begun

2. Under representation of women at UG, PGT and PGR levels

Ref	Action	Responsibility	Target	Timescale	Progress to date
2.1	Update School and department websites and student recruitment material to include profiles of a diverse range of students and details of our Women in Science Initiative.	Recruitment WG, School Marketing Officer, School Digital & Events Officer	Feedback from female applicants shows positive effect. Increase in applications from female students.	Updates made by September 2014	Women in Science Initiative webpages are in place. 4 student profiles have been added.
2.2	Review current outreach activities to identify best practice across departments and formulate actions to specifically target girls. Explore possibility of arranging a hackathon aimed at school girls in conjunction with KCL Tech society.	School outreach team, made up of academic NMS staff with responsibility for outreach and admissions	Actions to target girls identified and incorporated into action plan. Increase in applications from female UG students.	Review complete and reported to the E&D committee meeting in September 2014. Actions incorporated into action plan by October 2014.	None

2.3	Encourage and financially support female academic staff to attend public speaking and media training courses. Encourage all female academic staff to complete entry in King's Directory of Experts.	Heads of Department	Increase in number of female academic staff appearing as experts in the media. Increase in applications from female students.	15% of female academic staff to attend training by April 2015, 30% by April 2016, 45% by April 2017. 80% of female academic staff to complete entry in Directory of Experts by April 2015.	5 female academic staff have been on media training. 2 female academic staff have featured as experts in the media this year and 1 presented at TEDxFulhamWomen.
2.4	Annual event to encourage taught students to consider a PhD. Include a talk explaining what is involved in doing a PhD, a poster session from current PGR students, a talk highlighting non-standard academic career paths. Ensure strong representation of female role models.	Student WG, School Digital & Events Officer	Good attendance of female students. Feedback shows positive effect on female students' consideration of a research career. Increase in PGR applications from female taught NMS students.	Event to be held annually. Next event to be held in November 2014.	First event held. Feedback showed that as a result of the event 4 students (2 female) will now consider an academic career. The talk on the academic career paths (given by a woman in a dual academic career marriage, with industry experience and 2 children) was highlighted as being particularly influential.
2.5	Review effectiveness of Women in Science Scholarships. Decide whether to continue with them or divert the funds to support outreach activities aimed at girls.	School Marketing Officer, Executive Board	Decision made about whether to continue with scholarships or instead use the funds to support outreach activities. Increase in applications from female UG students.	Decision September 2014, for 2015-16 cycle	None

3. Under representation of women in academic and research posts

Ref	Action	Responsibility	Target	Timescale	Progress to date
3.1	Unconscious bias training for appointment panel members.	Head of School, Heads of Department	All members of each appointments panel to have received unconscious bias training. Increase in numbers of women appointed.	All Heads of Departments and Heads of Groups to have been trained by September 2014. At least one member of each appointments panel to have received training from September 2014. All appointment panel members to have received training from September 2015.	Head of School, all Heads of Departments and 4 Heads of Group have attended unconscious bias training.
3.2	Update School website and job vacancy templates to include information on what it is like to work in NMS, including details on family-friendly policies and profiles of a diverse range of people working in NMS, including people that work flexibly and have managed career breaks.	Recruitment WG, School Digital & Events Officer, School Business Manager	Feedback from female applicants shows positive effect. Increase in applications from women.	Updates made by September 2014.	None.
3.3	At least one woman on every recruitment panel, drawing on staff from other departments where necessary.	Executive Board, Director of School Administration	Feedback from female applicants shows positive effect. Increase in women appointed.	From May 2014.	None
3.4	Person specification of all job adverts to be reviewed by two members of the E&D Committee with the aim of avoiding the use of words associated with male stereotypes.	Manager of post being advertised, Heads of Department	Increase in applications from women.	From June 2014.	None
3.5	Potential female applicants to be identified and personally invited to apply.	Manager of post being advertised, Heads of Department	At least two suitably qualified women to be personally invited to apply for each post. Increase in applications from women.	From June 2014	None

3.6	Identify channels for advertising vacancies that target women (e.g. BCSWomen mailing list).	Recruitment WG, Heads of Department, School Business Manager	Mechanisms to ensure job ads are targeted at relevant channels. Increase in applications from women.	Mechanisms in place by June 2014	None
3.7	All staff on appointment panels receive adequate training in new e-Recruitment system and all relevant information is being recorded. Data monitored and any issues identified.	Heads of Department, Departmental Administrators	All data regarding gender breakdown of applicants, shortlists, appointments and appointment panels is recorded. Any issues rapidly identified and actions to address them incorporated in our action plan.	Data recorded from May 2014. Data analysed in response to each new post.	None

4. Support for women around the promotion process

Ref	Action	Responsibility	Target	Timescale	Progress to date
4.1	Ensure all staff are appraised at least once a year and career/promotion plans discussed.	Heads of Departments	Increase in numbers of women reporting that they found the career advice at their last appraisal either extremely or very useful. Increase in women successfully promoted.	From June 2014.	None
4.2	Establish School promotion panel, responsible both for encouraging staff to apply for promotion as appropriate *and* for providing feedback on promotion applications prior to submission. Put in place a process by which all staff are considered by promotion panel with regards to whether they are ready to apply for promotion, providing feedback on areas of weakness to those staff who are not.	Executive Board	Improvement in perception by women that promotion process is clear. Increase in women successfully promoted.	Process in place and communicated to all staff by September 2014.	None

4.3	Develop clearer guidance on promotions process and criteria, to include (anonymous) case studies of promotion at each grade where possible.	Executive Board	Improvement in perception by women that promotion criteria are transparent. Increase in women successfully promoted.	In place by September 2014.	None
4.4	Encourage attendance of the promotions workshops run by King's Women's Network and monitor feedback. If necessary, introduce School level promotions training.	Heads of Departments, E&D Officer	Improvement in perception by women that promotion process is clear. Increase in women successfully promoted.	Feedback gathered by December 2014. Decision made about School level promotion training by January 2015 and, if necessary, School level promotion training in place by March 2015.	None

5. Support for women in progressing their careers

Ref	Action	Responsibility	Target	Timescale	Progress to date
5.1	Review current appraisal process for Researchers. Ensure each Researcher is appraised annually and the process adequately reflects their needs.	Early career researchers WG, School Research Committee, Executive Board	All Researchers appraised annually. Positive feedback from female Researchers on the appraisal process.	Process reviewed and reported to the E&D Committee meeting in September 2014. Any necessary changes to the process made by October 2014.	None
5.2	Update website to include clear information regarding support available around maternity and adoption leave.	E&D Officer, NMS Digital & Events Officer	Feedback shows positive effect on women. Increase in applications from women.	In place by October 2014.	None
5.3	Establish a scheme to ring fence the salary saving of an individual on maternity leave, to use in supporting them either while they are away or on their return.	Head of School, Director of School Administration, VP Arts & Sciences	Feedback shows positive effect on women.	Reported on to E&D Committee meeting in June 2014. Scheme in place by August 2014.	None
5.4	Develop and manage the pilot College-wide scheme to fund childcare for academics to attend residential or out-of-work-hours activities such as conferences or sandpits. Evaluate this pilot scheme and implement a School level scheme if necessary.	Head of School, College Athena Swan Project Officer	Positive feedback on scheme. If the pilot scheme is not continued by the College, School level scheme implemented.	Pilot is expected to run from May 2014 to October 2014. Feedback to be gathered every 3 months from May 2014.	Arrangements for the pilot are being finalised.

5.5	Explicit option for students to request a female personal tutor on induction in Chemistry, Informatics and Mathematics.	UG and PGT Programme Administrators	Feedback from female students show they find this valuable.	In place for the new intake of students in September 2014.	None
5.6	Establish a forum for Researchers.	School Research Committee	Feedback shows positive effect on women. More opportunities for female Researchers to network.	By June 2014.	A female Researcher has offered to coordinate this.
5.7	Mock grant panels for staff to receive feedback on their proposals and to have experience on sitting on a panel.	School Research Committee, Department Research Committees	Increase in women who find the support and advice on offer around funding to be good or very good. Increase in women awarded grants.	From May 2014. Mock panels are responsive and convened whenever someone has a proposal they are near ready to submit.	In place in Informatics and Physics already, feedback very positive.
5.8	Review training available for Researchers and PGR students; address any shortcomings as necessary.	Early career researchers WG	Increase in female Researchers and PGR students who find the training available to be very or extremely good.	Available training reviewed and reported on to E&D Committee meeting in September 2014. Any extra training needed to address any shortcomings in place by December 2014.	None.
5.9	Review the mentoring arrangements within each department and formalise a School-wide mentoring program for all staff, drawing on good practice within the departments.	Executive Board	Feedback shows positive effect on women.	Review complete and reported on to E&D Committee meeting in June 2014. Formal program in place by September 2014.	Mentoring does occur within the departments but it is somewhat ad hoc at the moment.
5.10	Information on the career and personal development opportunities to be circulated to all academic staff, included in induction material and added to the school webpages.	E&D Officer and NMS Digital & Events Officer	Increase in number of women who feel encouraged to participate in training and who find the opportunities available to be good or very good.	Information circulated to all academic staff by May 2014. Information added to website by July 2014. Information included in induction material from July 2014.	None.

5.11	Evaluate the College-wide pilot mentoring scheme for junior female academic staff to determine whether a School level scheme is necessary.	Maribel Fernandez, School lead on pilot scheme	Better understanding of usefulness of and demand for mentoring of junior female academic staff.	Report to the E&D Committee on usefulness of College level scheme in December 2014. If necessary, action to develop School level scheme incorporated into action plan by January 2015.	Pilot scheme is underway
5.12	Evaluate the College-wide pilot mentoring scheme for Researchers to determine whether a School level scheme is necessary.	Early career researchers WG	Better understanding of usefulness of and demand for mentoring of Researchers.	Report to the E&D Committee on usefulness of College level scheme in May 2015. If necessary, action to develop School level scheme incorporated into action plan by June 2015.	Pilot scheme is under construction
5.13	Identify sources of academic careers advice within departments; document in PGR student handbook and circulate to PGR students.	School Research Committee	Female PGR students have better access to the support they need.	By September 2014.	None
5.14	Head of School to meet individually with each member of staff in Chemistry department to allow them to raise any issues of concern and discuss any support they might need.	Head of School	Improvement in perception by women in Chemistry that they understand how NMS works and feel a sense of belonging.	Head of School to meet with all Chemistry staff by September 2014. Any issues identified and actions to address them incorporated into action plan by September 2014.	None

6. Workload allocation

Ref	Action	Responsibility	Target	Timescale	Progress to date
6.1	Workload allocation (including all teaching, administrative and supervision responsibilities) to be included on Department intranets.	Heads of Departments	Women perceive an improvement in the transparency of workload allocation. Improvement in perception by women that they understand who in NMS does what.	Included on intranets by September each year (when workload allocation is made), from September 2014.	Normally does happen, but not consistently.

6.2	Review workload allocation models. Revise current workload allocation models to make them more transparent.	Executive Board	Women perceive an improvement in the transparency and fairness of workload allocation.	Outcome of review reported to E&D Committee meeting in September 2014. Revised workload models established by October 2014.	None
6.3	Review process for selecting chairs and deputy chairs of committees.	Executive Board	Better representation of women chairing key committees.	Review complete and reported on to E&D Committee meeting in September 2014. Actions to improve representation incorporated in action plan by October 2014.	None
6.4	Document the various committee chair roles, include on website and circulate to all staff.	E&D Officer	Improvement in perception by women that workload allocation is fair and they understand who in NMS does what. Better representation of women chairing key committees.	Document produced and made available to all staff by June 2014.	None
6.5	Monitor attendance of staff at Saturday Open Days.	Heads of Department	Staff attending these open days are not overburdened. Workload allocation takes account of this activity.	From May 2014.	None
6.6	Monitor workload associated with Physics female personal tutor role.	Head of Physics	Physics female personal tutor is not overburdened. Workload allocation takes account of this activity.	From May 2014.	None

7. Changes to culture

Ref	Action	Responsibility	Target	Timescale	Progress to date
7.1	Timing of events: - All department and school committees to be held within core hours of 10 – 4 and, wherever possible, not during school holidays. Times of all department and school committee meetings for academic year to be emailed to all staff in September. - Wherever possible, research events to be held during core hours of 10-4. Where this is not possible, events to be announced at least two months in advance. - Annual picnic for all staff and PGR students and their families. - Termly school-wide coffee and cake morning, to be held at Guy's Campus once a year.	NMS Director of Administration, Heads of Department Administration, Heads of Departments, Head of School	Increase in the number of women who agree that meetings and events are arranged in such a way that the majority can attend.	Committees and research events to be held within core hours from September 2014. Picnic each July, from July 2014. Coffee and cake mornings 3 times a year, starting in May 2014.	Meeting in Physics are held within core hours.

7.2	Communication of Athena principles: - Link to Women in Science Initiative webpages from department webpages. - Continue to send biannual Women in Science Initiative Newsletter to all staff and students. - Establish NMS Women in Science Initiative branding and produce guidelines for its use. - Session on unconscious bias and the importance of our Women in Science Initiative to be included at new student induction. - Establish an annual Ada Lovelace student prize, recognising contribution to gender equality and academic achievement.	NMS Digital & Events Officer, NMS Marketing Officer, E&D Officer, E&D Champion, Head of School	Increase in number of Women in Science student champions, including some men. Feedback shows a better understanding of the importance of our Women in Science Initiative.	- Link to Women in Science Initiative webpages from department webpages by May 2014. - Newsletters to be sent in December and May each year. - Branding produced by September 2014; to be used on relevant communications by December 2014. - Unconscious bias session included at new student induction from September 2014. - Prize publicised by September 2014, awarded in 2015 and then annually.	Women in Science Initiative webpages are in place and feature prominently on NMS webpages. First newsletter was sent in December 2013, received very positively and generated engagement from students, leading to creation of Women in Science student champions.
7.3	Introduce code of conduct for all events hosted by NMS, drawing on anti-harassment work of the Ada Initiative, to be circulated to all participants and enforced by event organisers.	E&D Champion, NMS Digital & Events Officer, Heads of Departments	Feedback shows positive effect on women.	Code of conduct in place by May 2014.	Draft code of conduct produced.
7.4	Gender balance of research event speakers wherever possible.	Heads of Departments	Increase in staff and student perception of female role models.	Gender balance to be aimed for from May 2014.	Informatics colloquia this year achieved gender balance.
7.5	Review justification of evening lectures in Mathematics.	Head of Mathematics	Decision made regarding necessity of evening lectures.	Review complete and reported to E&D Committee in September 2014.	None

7.6	Celebrating the success of women: - Women in Science webpages to include profiles of all female academic staff and a selection of female students and research staff. - Women in Science webpages to highlight successes of women in NMS and their occurrences in the media. - Annual event around Ada Lovelace Day, celebrating women in science and including an invited speaker to talk about the importance of supporting women in science. - Continue to hold annual lunch for current Women in Science Scholarship holders.	NMS Digital & Events Officer, NMS Marketing Officer, E&D Officer and E&D Champion, Head of School	Positive feedback from female staff and students. Feedback shows a better understanding of the importance of our Women in Science Initiative.	- Profiles in place by December 2014. - Webpages updated in response to successes of women or their appearance in the media. - First Ada Lovelace Day event to be held in October 2014, then annually each October. - Lunch for scholarship holders in the winter term of each year.	2 academic staff and 4 student profiles on website. Website includes successes of women and their appearances in the media. First lunch for Women in Science Scholarship holders was held in November 2013 and received positive feedback.
7.7	Induction: - Introduce buddy scheme for new members of academic and research staff. - Review induction process for academic staff and for research staff in each department.	Heads of Department Administration, Heads of Department	Increase in number of women who agree that the induction they receive makes them feel welcome and helps them to understand how the School and department work.	- Buddy scheme in place by September 2014. - Induction processes reviewed and reported on to E&D Committee meeting in June 2014. Actions to address any issues incorporated into action plan by July 2014.	None
7.8	Event to welcome Chemistry staff to NMS.	Head of School	Increase in perception of Chemistry staff that they feel a sense of belonging to NMS. Increase in cross School collaborations.	Event held by September 2014.	None