MATHEMATICAL INSTITUTE
24–29 St Giles', Oxford OX1 3LB

Professor Sam Howison
Chairman of Mathematics

30 April 2013

Dear Athena SWAN panel,

I am proud that, with 24 female academic staff, including two Fellows of the Royal Society (each the mother of three children) and fifteen in permanent positions, Oxford's Mathematical Institute has the largest community of female mathematicians in any UK mathematics department, and the largest group of female PhD students in mathematics. Female mathematicians from Oxford, encouraged by the department, take leading roles in mathematics in the UK (Royal Society Council, London Mathematical Society (LMS), RAE/REF, EPSRC) and internationally. Senior female mathematicians in other UK departments (Warwick, Liverpool, Newcastle, Birkbeck) were trained at Oxford.

However, although I am delighted to have all these female colleagues, their number appears less good relative to the size of our department, which is one of the largest and most successful in the country. Its rapid expansion over the last decade has required us to make significant changes. This has been an appropriate time for us to reflect on whether our working practices are as good as they can be. Integrating the Athena SWAN action plan into our strategic vision for the department as it is unified (for the first time in 40 years) in our new building this summer has formed the basis for structural changes that will have lasting benefits.

In 2010 we became a Supporter of the LMS/HoDoMS Good Practice Scheme, and in early 2011 set up a Good Practice Steering Group (GPSG) chaired by Professor Frances Kirwan FRS. I liaise very closely with Frances and attend meetings whenever I can. The GPSG was launched with an expanded version of the LMS's annual Mary Cartwright Meeting; we added to the Mary Cartwright lecture by a leading woman mathematician (Alison Etheridge from Oxford) a lunch for women in the department and a careers forum for young researchers, which the department has decided to continue offering. More recently we have developed 'Good Practice' webpages on our website and we will be hosting a maths summer school for girls for the first time in August. In 2015 the 150th anniversary year of the LMS will include a 2-day Women in Mathematics meeting, hosted by our department, which will celebrate the contributions of female mathematicians over the last 150 years.

I am well aware that the 2010 International Review recommended urgent action to improve the participation of women in UK mathematics, and am strongly committed to the principle that good practice benefits everyone while poor practice particularly hinders women. I am pleased that it is becoming commoner for male academics in our department to take paternity leave and ask for lecturing times which are compatible with the school run and other caring responsibilities; I believe this is evidence for the sort of culture in the department which I want to create. Through Athena SWAN, I will ensure the department strives to put effective plans in place to recruit, retain and maximise the potential of female mathematicians for the future, not just for Oxford mathematics but for the UK in general.

Yours Sincerely,

Professor Sam Howison
Chairman of Mathematics

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

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

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

2. The self-assessment process: maximum 1000 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

[A list of abbreviations can be found after the action plan.]

The self-assessment team comprises fourteen members:

Professor Frances Kirwan FRS: Self-assessment team Chair.

Dr Richard Earl: Director of Undergraduate Studies.

Alain Goriely: Professor of Mathematical Modelling.

Roger Heath-Brown FRS: Professor of Pure Mathematics.

Dr Andrew Hodges: Senior Research Fellow in Mathematical Physics.

Dr Sarah Waters: University Lecturer in Mathematics.

Dr Ornella Cominetti: Postdoctoral researcher and part-time Athena SWAN Facilitator.

Dr Lillian Pierce: Postdoctoral researcher.

Jody Reimer: Masters by Research student.

Michaela Rombach: DPhil student.

Lotti Ekert: Numerical Analysis Group Administrator and Good Practice Coordinator.

Elizabeth Ogden: Head of Administration and Finance.

Ruth Preston: Faculty Services Administrator.

Dr Christopher Voyce: Head of Research Facilitation.

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

The department's commitment to addressing gender issues goes back many years; see "Any other comments" (page 36) for its assessment in the divisional review of 2010 of the position of women in the department until 2009.

Some years ago Frances Kirwan sat on the University's Gender Panel which examined gender differences in undergraduate performance in many subjects including mathematics, and encouraged action to address such gender gaps. She was also a member of the LMS Women in Mathematics Committee which initiated the Good Practice Scheme for mathematics departments.

The department's Good Practice Steering Group, which has taken the role of self-assessment team for Athena SWAN, was set up in January 2011. The full Steering Group meets at least termly and has met ten times in all so far; subsets of the team meet frequently for less formal discussions. In May 2011 and November 2012 team members attended LMS workshops on Athena SWAN and the Good Practice Scheme. In September 2011 the team analysed a preliminary version of our self-assessment data. The main areas of concern were:

1. at undergraduate admissions a significantly smaller proportion of female applicants received offers from Oxford;
2. a significantly larger proportion of male undergraduates continued to a fourth year for an MMath degree;
3. the proportions of female maths undergraduates, postgraduates on taught courses and DPhil students were lower at Oxford than the national average.

Two surveys were introduced in 2012: a three-yearly staff survey and an annual survey of third year undergraduates. A survey of graduate students was made in 2013. There were almost no statistically significant gender differences in the responses to the student surveys, but a few important issues arose which have informed our thinking. The action plan incorporates our responses to findings from all four surveys to date.

The Athena SWAN Facilitator (appointed in August 2012) developed and maintains our Good Practice webpages, which can easily be found by clicking on the Good Practice logo on our homepage. The Good Practice pages combine existing material from a range of university webpages and our own new material, with individual pages for prospective students, undergraduate and graduate students, postdoctoral researchers and staff. The pages receive over 200 visits per month, and other mathematics departments are using them as a model for their own websites.

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.

The Good Practice Steering Group (GPSG) was set up within the formal governance structure of the department (see diagram on page 27) in order that its activities, including those arising from the Athena SWAN initiative could be fully embedded in the department. Regular meetings are held each term, and reports are made to the termly Department-Faculty meetings (an inclusive, consultative body providing a discussion forum for departmental staff members), as well as to the Departmental Committee (the senior instrument of governance). The GPSG takes forward initiatives in relation to the five principles of the LMS Good Practice Scheme as well as the six principles of the Athena SWAN charter, and promotes good employment practices of all kinds, including but not limited to these principles. Departmental Committee has assigned resources and introduced new policy and plans from recommendations brought forward by the GPSG. It can also direct other committees to consider elements of the action plan within their remit. While the GPSG's task is to monitor progress against the action plan, the Departmental Committee ensures that there is progress towards the desired long-term outcomes through adoption of successful ventures into regular departmental practice.

3. A picture of the department: maximum 2000 words

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

The Oxford Mathematical Institute is one of the largest UK mathematics departments, with 151 academic staff including 85 permanent posts and nine Fellows of the Royal Society. Unlike many others which are split into departments of Pure and Applied Mathematics, the unitary Oxford structure encourages numerous strong interactions between different research groups and contributes to the department's continued high reputation. Some staff in other departments, such as Professors Alison Etheridge (Statistics) and Helen Byrne (Computer Science) have joint appointments in Mathematics, or are otherwise deemed faculty members of the Mathematical Institute by virtue of their teaching and research in mathematics.

As well as being a leading research department, the Mathematical Institute has one of the largest UK undergraduate intakes (close to 250 students per year, including the joint schools of Mathematics & Philosophy, Mathematics & Computer Science, Mathematics & Statistics), as well as currently 231 research students and 68 on taught MSc courses.

The last decade was a period of great expansion and restructuring for the department. In 2000 many central functions of the university were devolved to newly created divisions; the Mathematical Institute joined the Mathematical and Physical Sciences division (now MPLS). Since then the physical infrastructure has not kept pace with the expanding department, which has been split over three sites. However, plans for a new, large single site have now come to fruition, with the department moving into a new building in August.

This change is creating opportunities to plan improvements. All academic and non-academic staff have been strongly encouraged to provide input into the design of the new building. This aims to promote interaction and will provide a pleasant and positive working environment, with considerably more and better quality space for offices, teaching, research activities and social interaction.

Despite its organisational location in MPLS and strong focus on interdisciplinarity and collaboration with other science departments, the Mathematical Institute is very different from most other MPLS departments. Without labs or field-work, mathematicians in Oxford have huge flexibility and control over when and where they work. This is accentuated for many academic staff as they are jointly appointed to college and departmental positions. The timing of most teaching is arranged to suit the people concerned; even when scheduling lectures it is possible for faculty to avoid, for example, 9am lectures because of the school run.

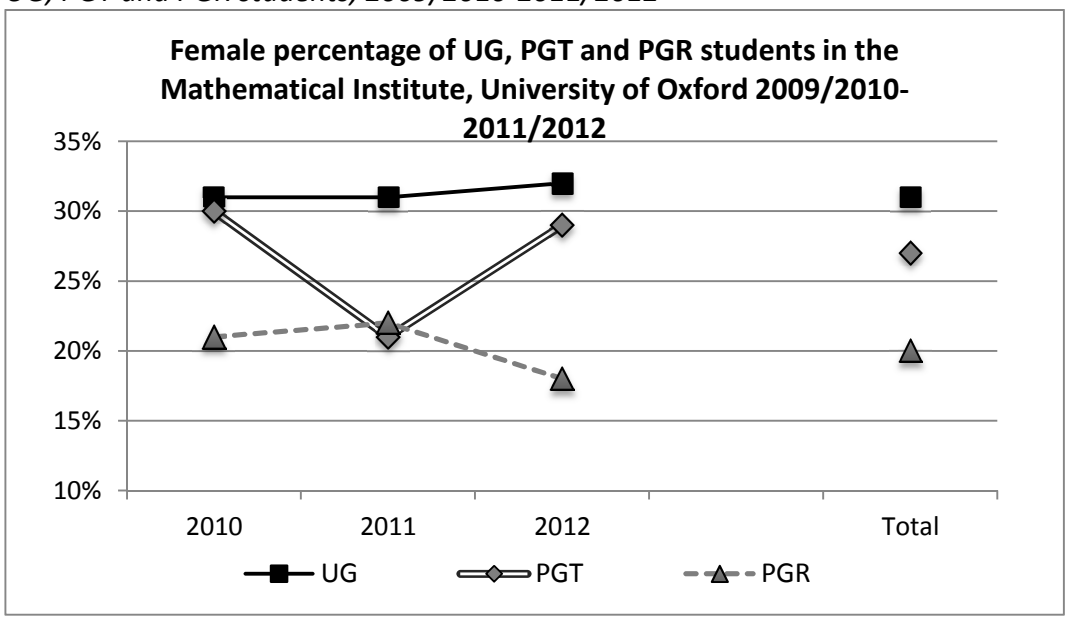
Weekly seminar series (30 on the current lecture list) are a significant activity during term, and each research group regularly hosts visiting academics. There are therefore many opportunities for interaction with faculty external to Oxford. High profile speakers include eminent female mathematicians; for example, the European Mathematical Society lecturer for 2011, Karen Vogtmann, gave her series of three EMS lectures in Oxford, the first as a colloquium talk for all department members. Ingrid Daubechies, current President of the International Mathematical Union, will speak at the opening conference for the department's new building. Of 236 research visitors to the department in the last year 45 (almost 20%) were women.

Since the early 1970s at least six female mathematicians at any one time have provided role models as lecturers in the department, and in recent years at least a dozen female academic staff have had permanent positions. Every year since 2005 the lecturers for the compulsory first year undergraduate courses have included between four and six women, in addition to plenty of female lecturers for more advanced courses. It is thus impossible for any student to obtain a mathematics degree in Oxford with the impression that only men do mathematics.

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

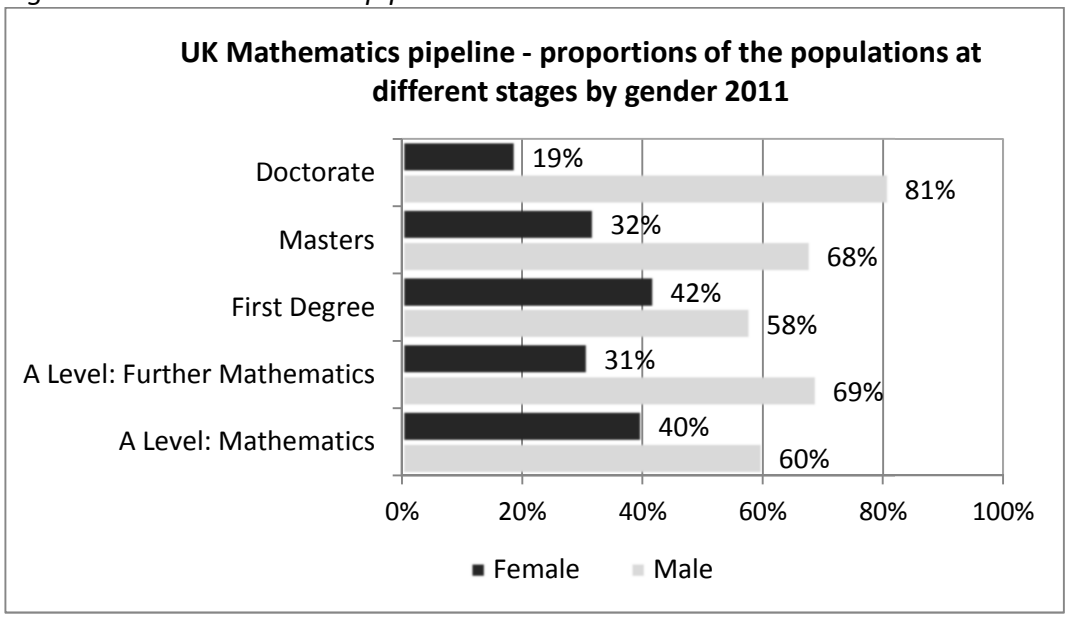
Student data

Figure 1a: Mathematical Institute, University of Oxford female percentages of UG, PGT and PGR students, 2009/2010-2011/2012

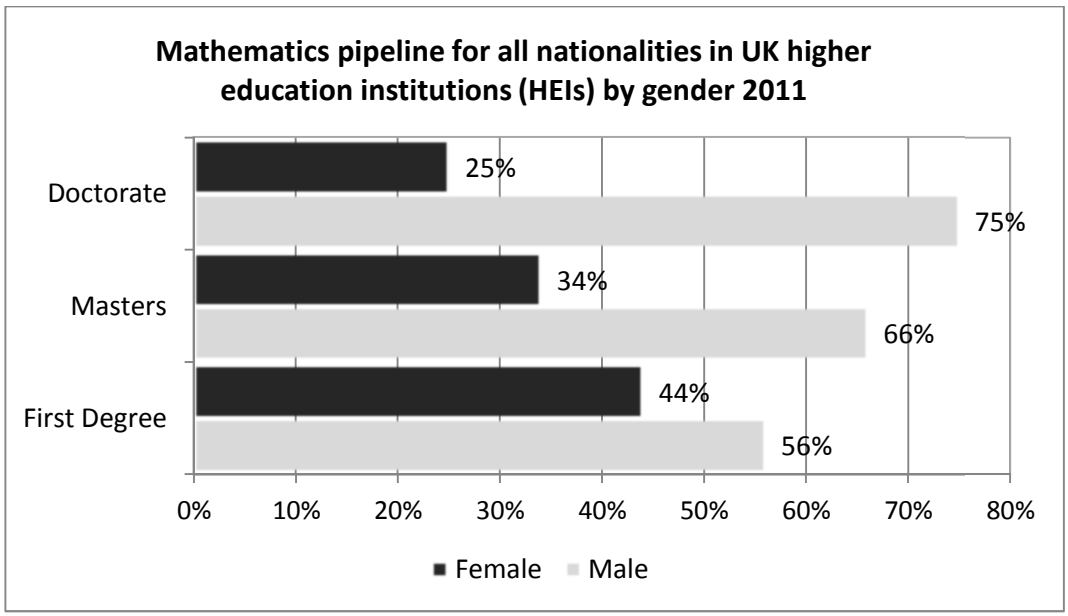


Source: Student Data Management and Analysis Team, University of Oxford. Examiners' Reports: Final Honour School of Mathematics & Philosophy Part C Final Honour School of Mathematics Part C and Final Honour School of Mathematics and Statistics Part C years 2010, 2011 and 2012.
Note: PGR numbers gradually decrease during the course of each academic year as students complete their doctorates; almost all students start their doctorates in October while completion usually happens sometime in the fourth year. These figures compare numbers of female and male PGR students early in the academic year.

Figure 1b: UK Mathematics pipeline



Source: Advancing Women in Mathematics: Good Practice in UK University Departments. 2013. London Mathematical Society (LMS).
Note: For A level the proportions of UK candidates who are female in 2011 are shown; for students graduating at first degree, masters and doctoral levels, the proportions of the UK domiciled population who are female in 2010-11 are shown.



Source: Advancing Women in Mathematics: Good Practice in UK University Departments. 2013. London Mathematical Society (LMS).

Table 1: Proportions of the mathematics undergraduate and graduate population who were female by domicile in 2010-11

	UK domiciled		Other EU domiciled		Overseas domiciled	
	Number	% Female	Number	% Female	Number	% Female
Doctorate	265	19	70	31	145	33
Masters	495	32	245	28	520	39
First Degree	6075	42	210	44	1055	51

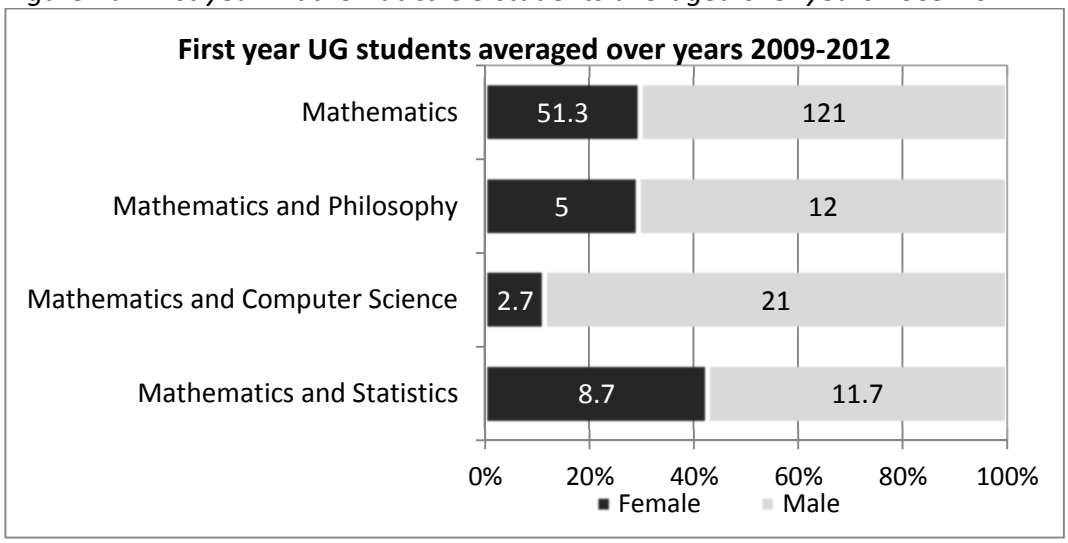
Source: Advancing Women in Mathematics: Good Practice in UK University Departments. 2013. London Mathematical Society (LMS).

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

The department does not run access or foundation courses.

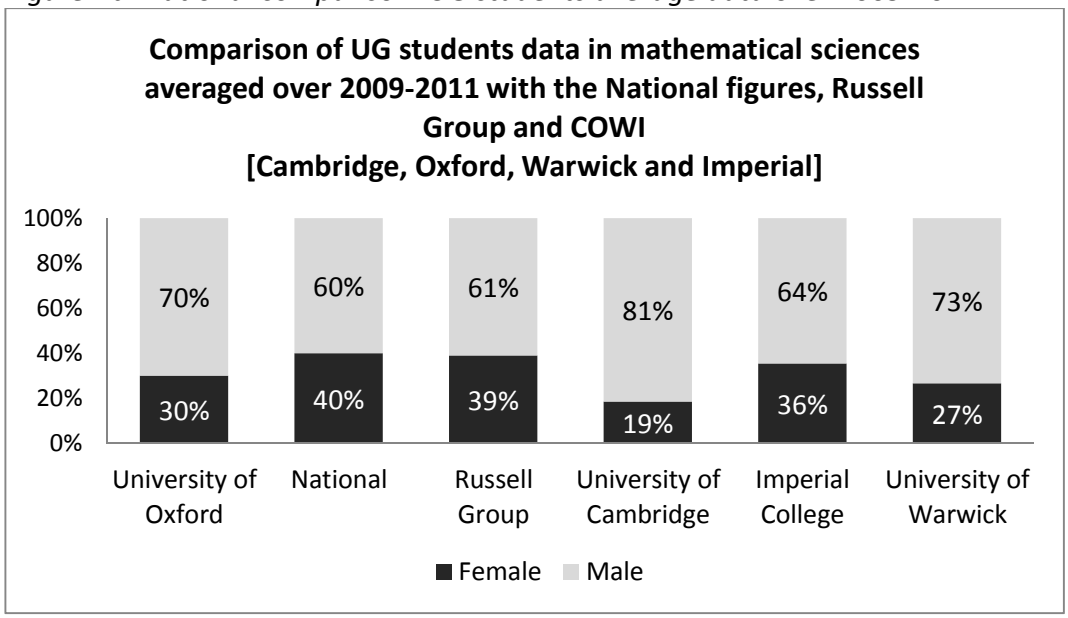
(ii) **Undergraduate male and female numbers** – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the impact to date. Comment upon any plans for the future.

Figure 2a: First year mathematics UG students averaged over years 2009-2012



Source: Student Data Management and Analysis Team, University of Oxford.

Figure 2b: National comparison: UG students average data over 2009-2011



Source: HESA (Higher Education Statistics Agency). **Note** that in Oxford the Department of Statistics is a separate department from the Mathematical Institute.

Over the last three years, the proportion of female undergraduates has remained around 30%. The national average of 40% is broadly in line with the percentage of girls among those studying Maths at A'level in the UK, while our average reflects the percentage for Further Maths. Most universities do not require students to have studied Further Maths, but in practice most applicants to COWI maths departments have done so.

Attracting sufficient female applicants with the aptitude and motivation to flourish as undergraduates has been a longstanding problem at Oxford, as elsewhere, although the historical effect of the women's colleges in Oxford has for many years ensured that there are inspirational female role models for female mathematicians.

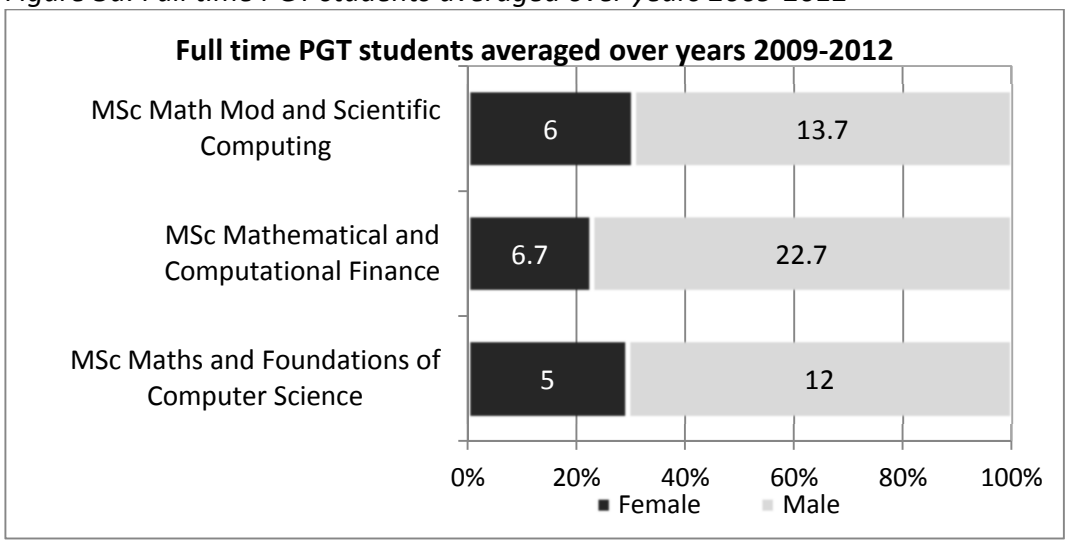
Our long term aim is to achieve a gender balance, but also to attract women who will flourish in the subject. Successful mathematicians need to enjoy the abstract nature of the subject; this can be difficult to assess in advance. School-level mathematics is very different from university-level, and students may not easily understand this without some exposure to enrichment activities, such

as the UK Mathematics Trust summer schools. Our strategy, therefore, is (action plan 1.1-1.5, 1.10-1.11, 6.1-6.2, 7.2):

1. to collaborate with UKMT in preparing girls for university-level mathematical study through new girls-only summer schools;
2. to explain our provision clearly and attractively in our promotional materials, website, and open days; and
3. to provide female role models at all stages of their careers to inspire prospective students.

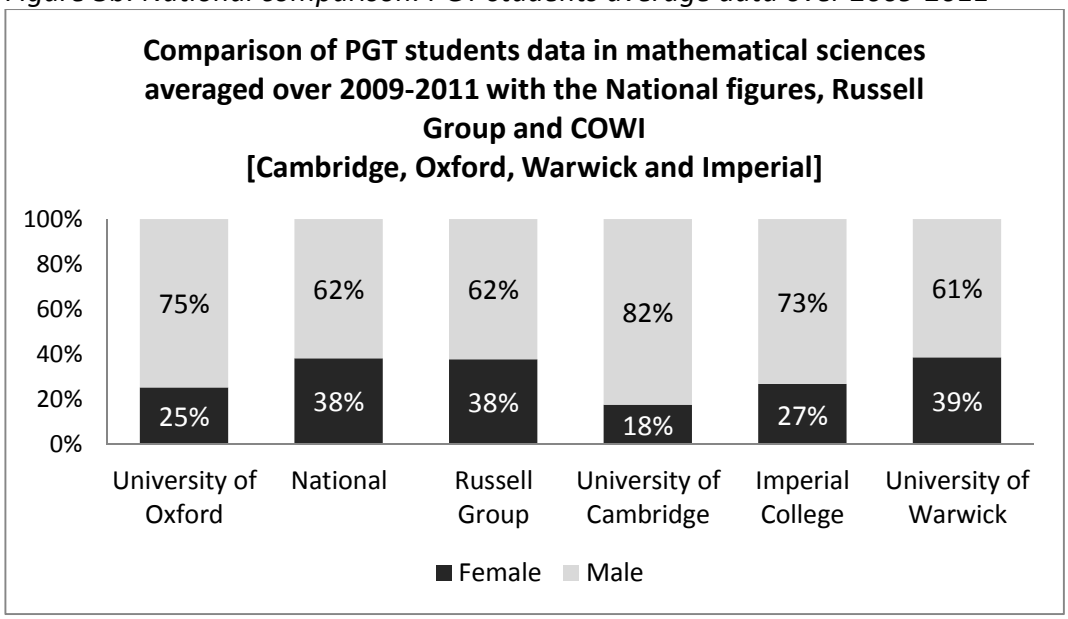
(iii) **Postgraduate male and female numbers completing taught courses** – full and part-time – comment on the female:male ratio compared with the national picture for the discipline. Describe any initiatives taken to address any imbalance and the effect to date. Comment upon any plans for the future.

Figure 3a: Full time PGT students averaged over years 2009-2012



Source: Student Data Management and Analysis Team, University of Oxford.

Figure 3b: National comparison: PGT students average data over 2009-2011



Source: HESA (Higher Education Statistics Agency). **Note** that in Oxford the Department of Statistics is a separate department from the Mathematical Institute.

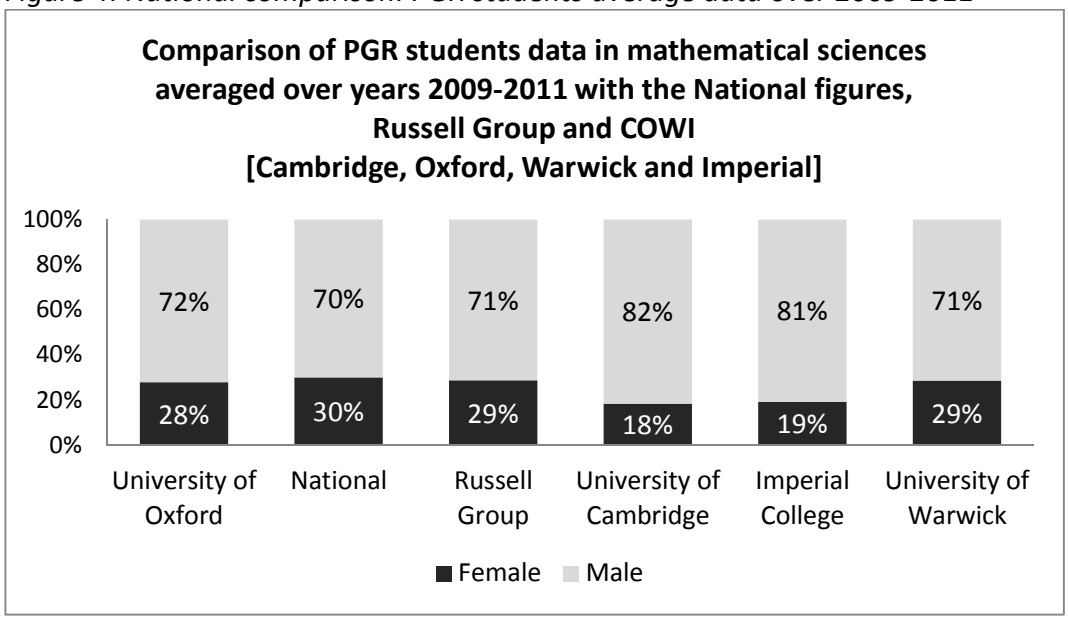
The PGT courses involving mathematics at Oxford are varied and involve relatively small numbers of students from widely different backgrounds, including mature students not arriving straight from undergraduate studies (especially for the part time MSc in Finance). The proportion of female students varies considerably from year to year. On average it is not out of line with Cambridge and Imperial but is significantly lower than the national figure.

Because these courses are so different, it is hard to generalise in terms of actions. However, in addressing the imbalance at PGT level we will (action plan 1.7-1.8, 6.1-6.2, 7.2):

1. continue to include a female professor to speak at our annual graduate (PGT and PGR) open day;
2. review our admissions criteria in relation to our competitors so that we do not put unnecessary hurdles in the way of higher study; and
3. continue to improve and maintain information on our website to benefit all applicants.

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

Figure 4: National comparison: PGR students average data over 2009-2011



Source: HESA (Higher Education Statistics Agency). Note that in Oxford the Department of Statistics is a separate department from the Mathematical Institute.

Comparison of PGR data with other universities is made harder because Mathematics and Statistics are separate departments in Oxford; also many students admitted to the Systems Biology and Life Sciences Interface Doctoral Training Centres transfer to the Mathematical Institute as PGR students after one year of DTC taught courses. Oxford's HESA data for mathematical sciences are comparable to the national average, but the national figure of 25% for 2011 quoted in the recent LMS report 'Advancing women in mathematics' is higher than our recent departmental percentages of female PGR students (around 20%).

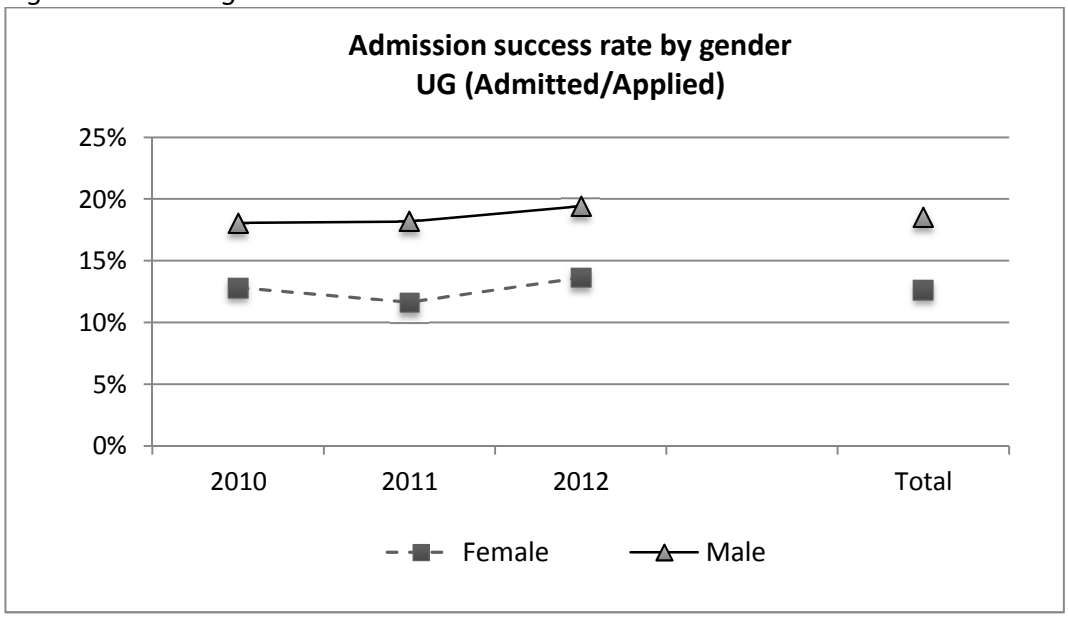
The initiatives described in (iii) apply equally well here; and (action plan 1.8-1.9, 3.5):

1. we introduced graduate student surveys to get a clearer picture of issues female PGT/PGR would like addressed.
2. we added '*10 things I wish I had known before my Maths DPhil*' and *'10 things I wish I had known before writing my thesis*' to the Good Practice webpage for graduate students;
3. aware that the funding climate for graduate study has recently worsened, we have promoted funding opportunities through links on the graduate webpages, and the department itself is investing in supporting students.

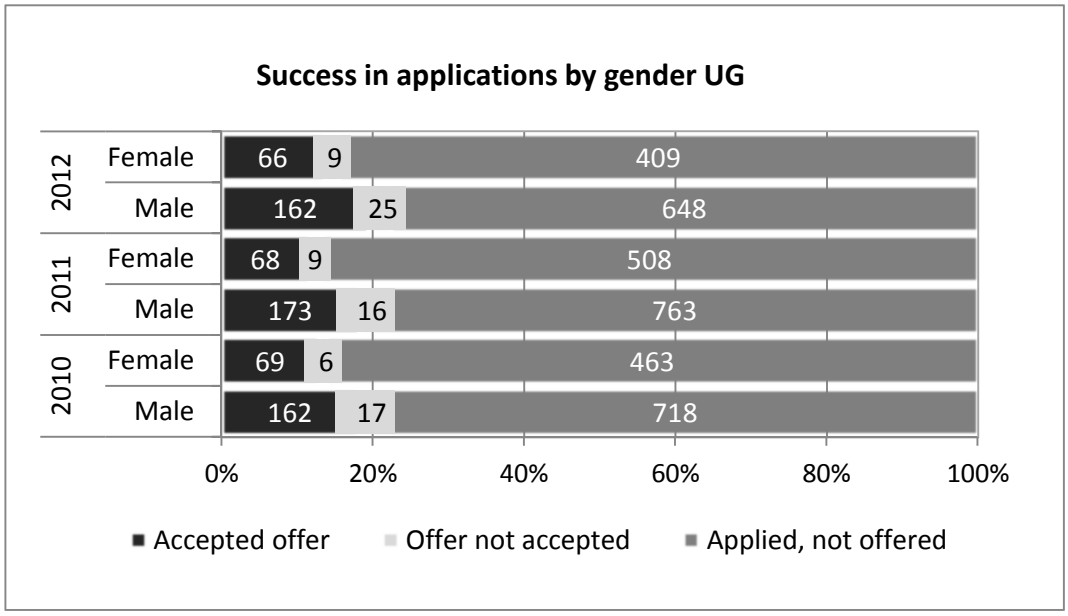
(v) **Ratio of course applications to offers and acceptances by gender for undergraduate, postgraduate taught and postgraduate research degrees** – comment on the differences between male and female application and success rates and describe any initiatives taken to address any imbalance and their effect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

Figure 5: Admissions

Figure 5a: Undergraduate admissions 2010-12

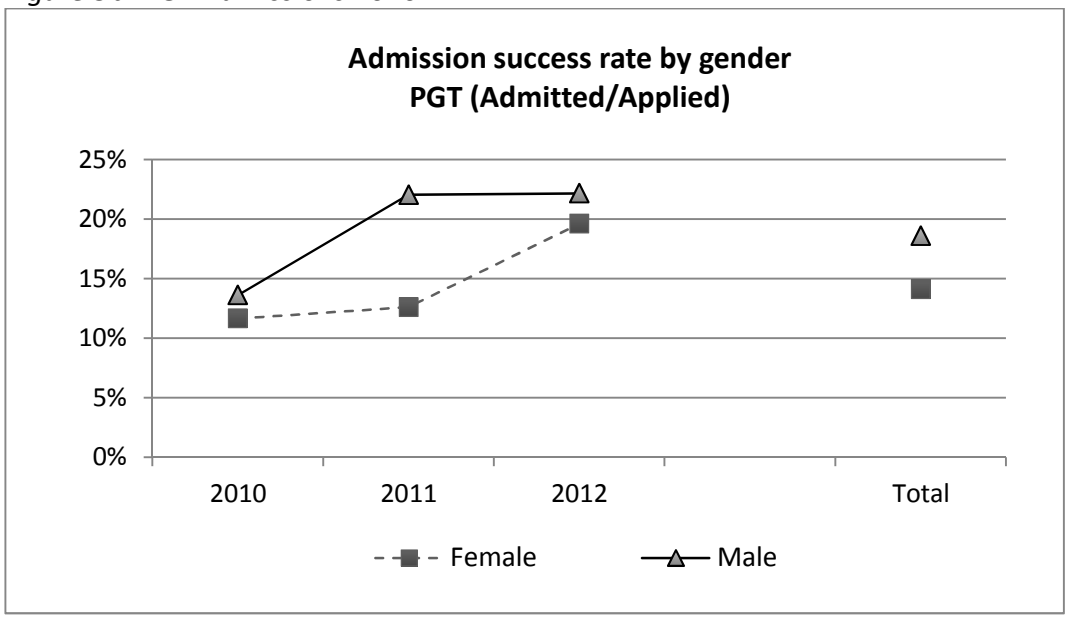


Source: Student Data Management and Analysis Team, University of Oxford.

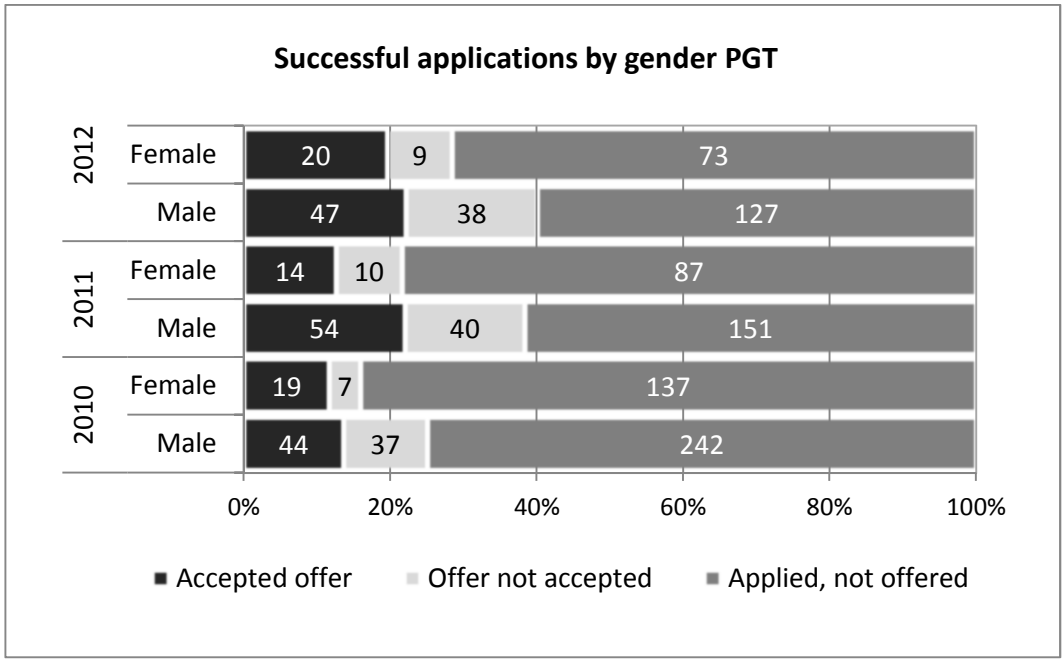


Source: Student Data Management and Analysis Team, University of Oxford.

Figure 5b: PGT Admissions 2010-12

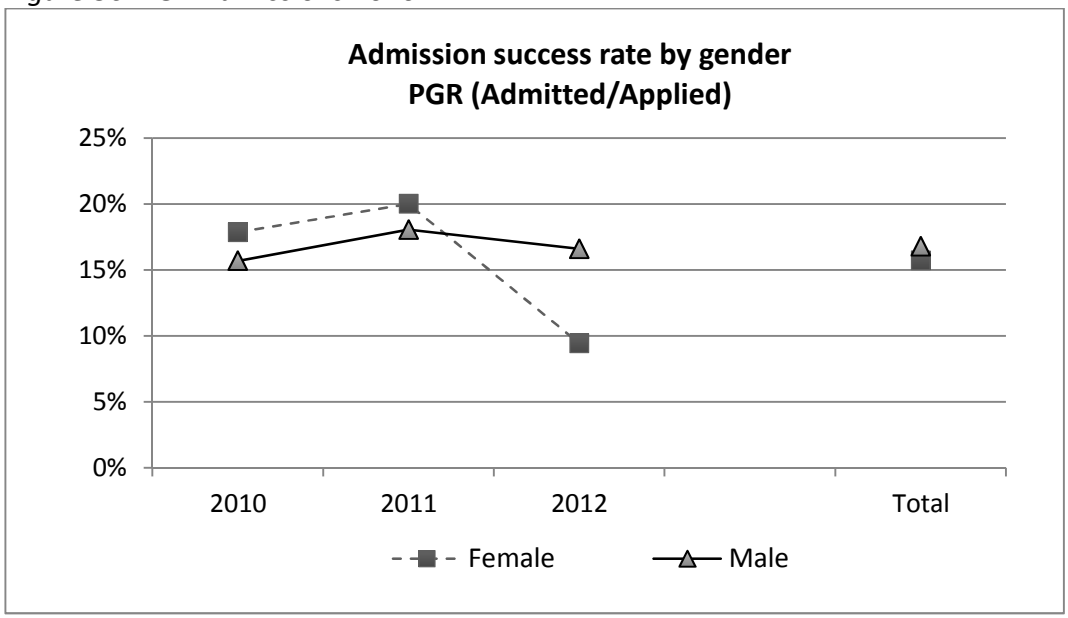


Source: Student Data Management and Analysis Team, University of Oxford.
Note: These figures do not include students admitted to the Systems Biology/Life Sciences Interface Doctoral Training Centres who transfer to the Mathematical Institute as PGR students after one year of taught courses in the DTC; a larger proportion of these students are female.

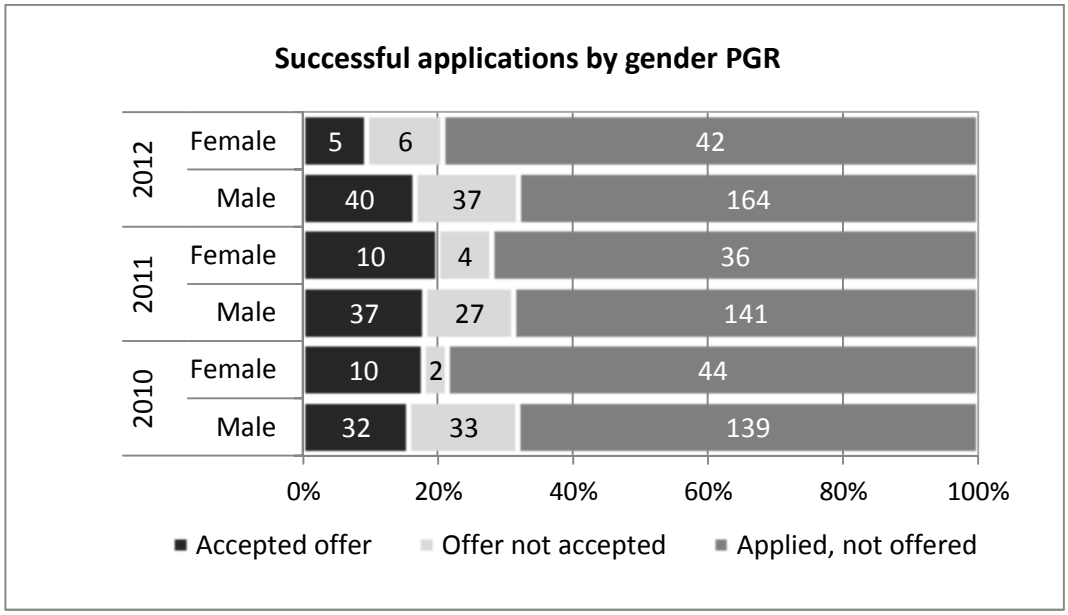


Source: Student Data Management and Analysis Team, University of Oxford.
Note: These figures do not include students admitted to the Systems Biology/Life Sciences Interface Doctoral Training Centres who transfer to the Mathematical Institute as PGR students after one year of taught courses in the DTC; a larger proportion of these students are female.

Figure 5c: PGR Admissions 2010-12



Source: Student Data Management and Analysis Team, University of Oxford.
Note: These figures do not include students admitted to the Systems Biology/Life Sciences Interface Doctoral Training Centres who transfer to the Mathematical Institute as PGR students after one year of taught courses in the DTC; a large proportion of these students are female.



Source: Student Data Management and Analysis Team, University of Oxford.
Note: These figures do not include students admitted to the Systems Biology/Life Sciences Interface Doctoral Training Centres who transfer to the Mathematical Institute as PGR students after one year of taught courses in the DTC; a larger proportion of these students are female.

Men have a greater success rate at UG and PGT levels, though the gap for PGT was very small in 2010 and 2012. For PGR women were more successful in 2010 and 2011, but not in 2012; we believe this sudden drop is a statistical blip, but are monitoring what happens this year very carefully.

The lower success rate of women at UG level has been apparent and a cause of concern for several decades. Undergraduate applicants take the Mathematics Admissions Test (MAT), introduced in the 1990s; most are interviewed in Oxford. Tutors at two colleges look for aptitude and technical skills, as well as perseverance and enthusiasm, a capacity to absorb and use new ideas, and the

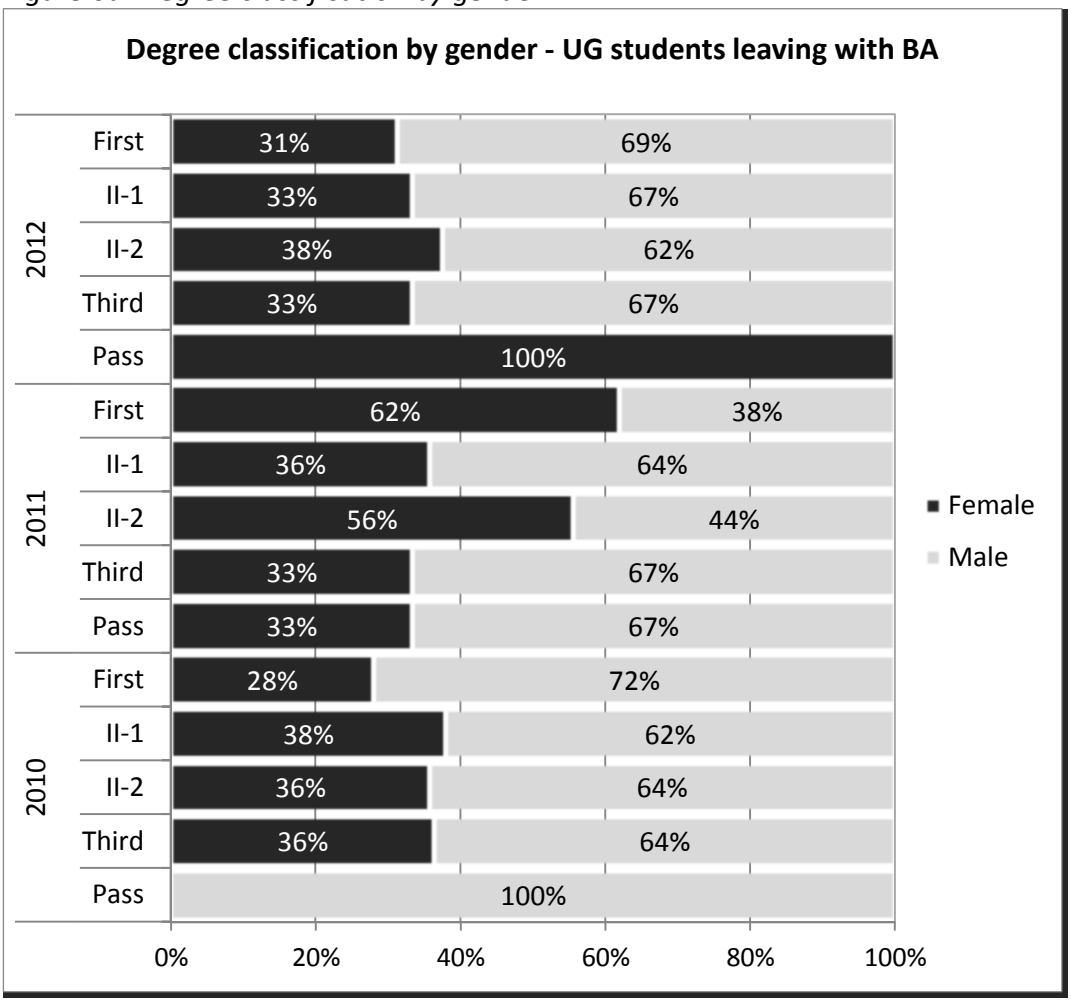
ability to think and work independently. We have an online training course for Maths admissions interviewers including good practice in admissions.

We have considered whether changes to the process would be appropriate but, having compared the performance of students at admissions and first year examinations, we believe it provides an important indicator of a student's ability to adjust to the demands of an Oxford mathematics degree, and the likelihood that they will enjoy their time studying here. Imperial will from 2013 use MAT for admissions, and we will monitor and react to any deterioration in their undergraduate gender balance. Cambridge, and recently Warwick, use STEP (Sixth Term Examination Paper) for admissions selection; women are apparently more successful at MAT than at STEP.

Our department takes a long-term approach which involves enthusing girls when young and helping them get support to progress their studies whilst still at school. We have invested in a number of schools-based initiatives (Further Maths Coordinator, access programme, Undergraduate Ambassadors Scheme, the Mathemagicians, girls-only summer school; see action plan 1.10-1.11, 4.6).

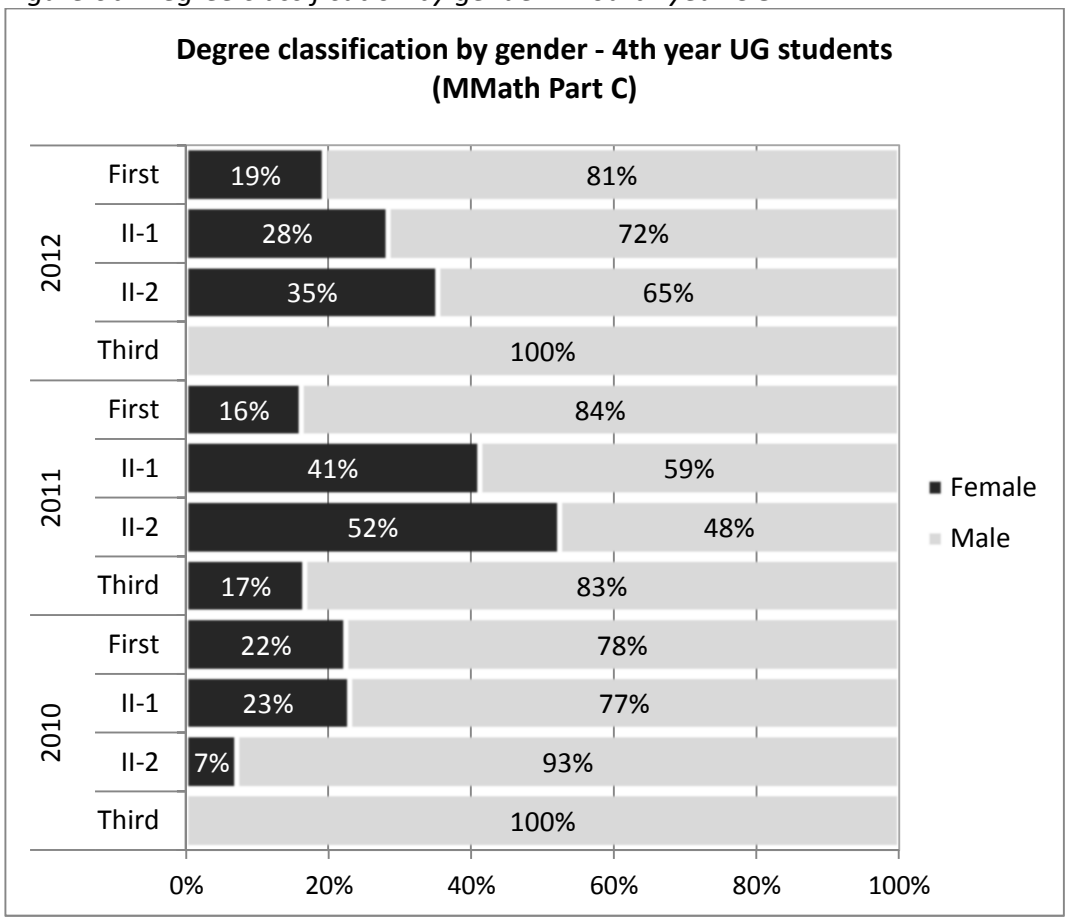
(vi) **Degree classification by gender** – comment on any differences in degree attainment between males and females and describe what actions are being taken to address any imbalance.

Figure 6a: Degree classification by gender –BA



Source: OSS Students Assessments Dataview. Data gathered by the Education Committee's Gender Panel of the University of Oxford.

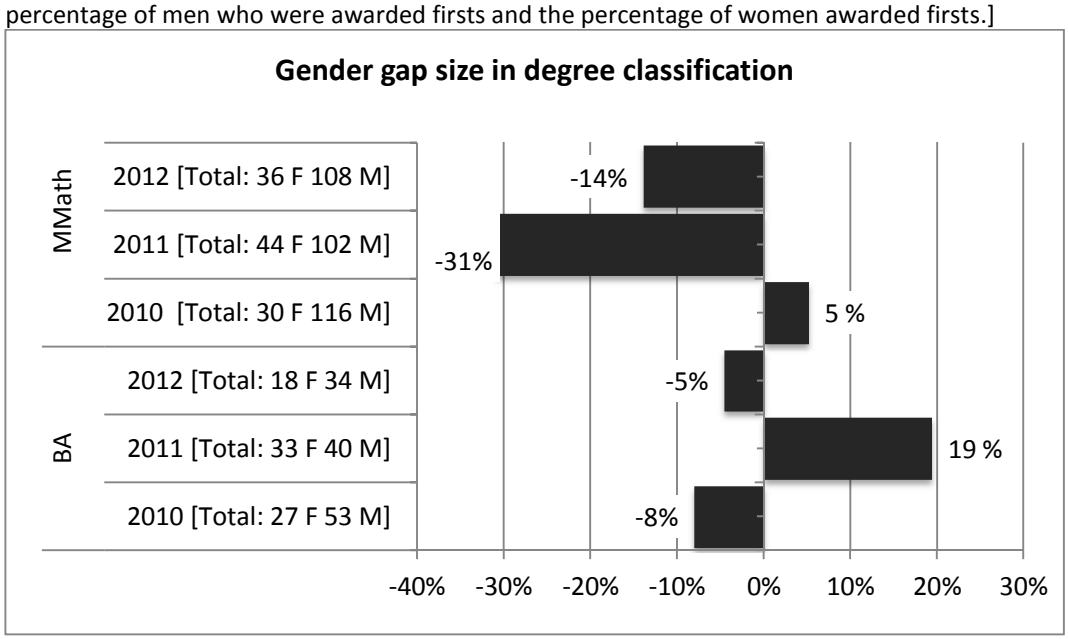
Figure 6b: Degree classification by gender – Fourth year UG



Source: OSS Students Assessments Dataview. Data gathered by the Education Committee's Gender Panel of the University of Oxford.

Figure 6c: Gender gap in first class degrees

[A bar to the left indicates that proportionally more men than women were awarded first class degrees; a bar to the right indicates the reverse. The size of the bar is the difference between the percentage of men who were awarded firsts and the percentage of women awarded firsts.]



Source: OSS Students Assessments Dataview. Data gathered by the Education Committee's Gender Panel of the University of Oxford.

Until recently (since the transition to mixed gender colleges) there was a clear gender gap each year in the degrees awarded at BA and MMath level, with proportionally fewer women awarded firsts. The picture now varies from year to year. The department annually runs a "Finals Forum" giving advice to undergraduates on exam technique, dealing with stress, and general well-being during the examination period. This is now promoted to 'less confident' students, rather than women, to avoid the so-called 'stereotype threat'.

Retention rates on our undergraduate degrees are high compared with the national average, attributed to Oxford's tutorial system. There is, however, a notable difference in continuation rates to the fourth year, with male students much more likely to continue to the MMath, as is the trend nationally. The gap between women and men on enhanced first-degree courses in mathematics in the UK compared with bachelor-degree courses is an additional 10%.

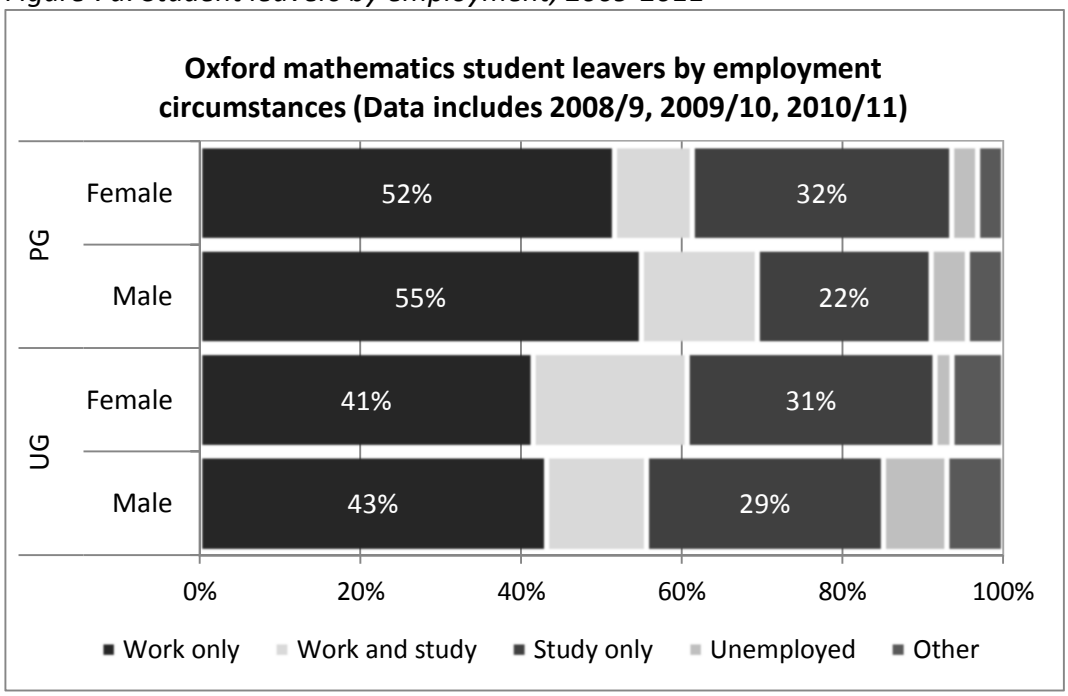
We began annual surveys of third year undergraduates in early 2012 to investigate this matter. It appears that:

- women are less likely to continue to the 4th year if they are not confident in their ability;
- women are more likely to plan in advance and will choose an alternative course of study or career path if they have already decided not to continue in academia;
- men tend to take decisions later and may opt to continue another year as an 'easy option';
- women are less comfortable in a competitive environment and may find lack of collaboration and team work at the early stages of a career in mathematics off-putting.

Our actions in response are 1.3-1.6.

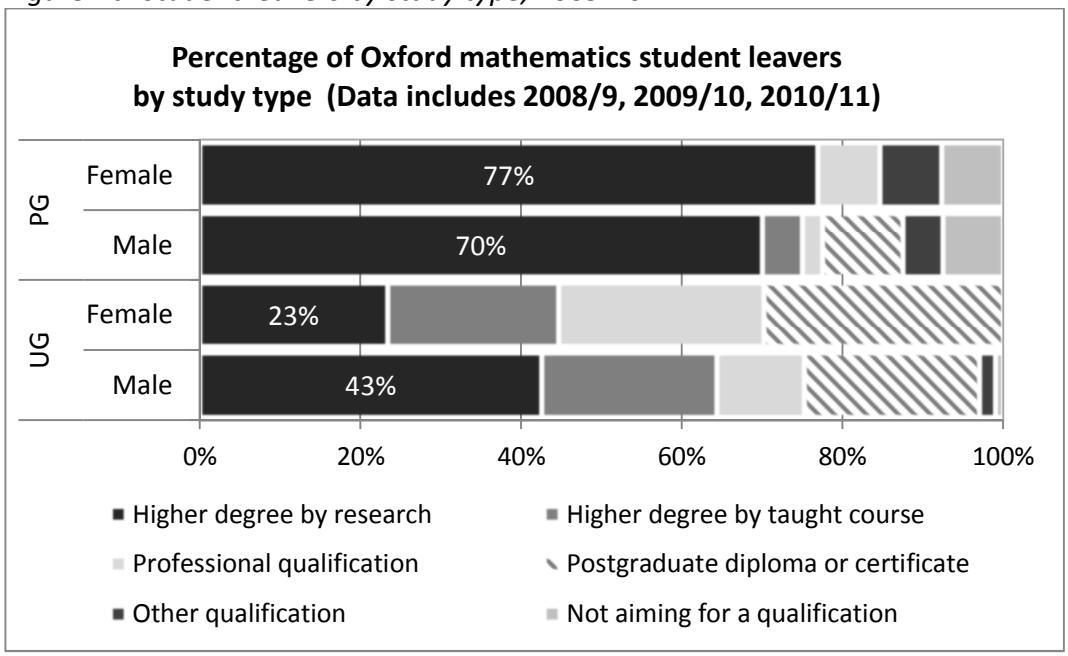
Our data on destinations of leavers indicates, nevertheless, that a high number of women who study mathematics at Oxford progress to further study and full-time employment.

Figure 7a: Student leavers by employment, 2009-2011



Source: Survey performed by the Careers Service of the University of Oxford to students six months after they leave the University as part of the Government's Destination of Leavers from Higher Education (DLHE) survey.

Figure 7b: Student leavers by study type, 2009-2011

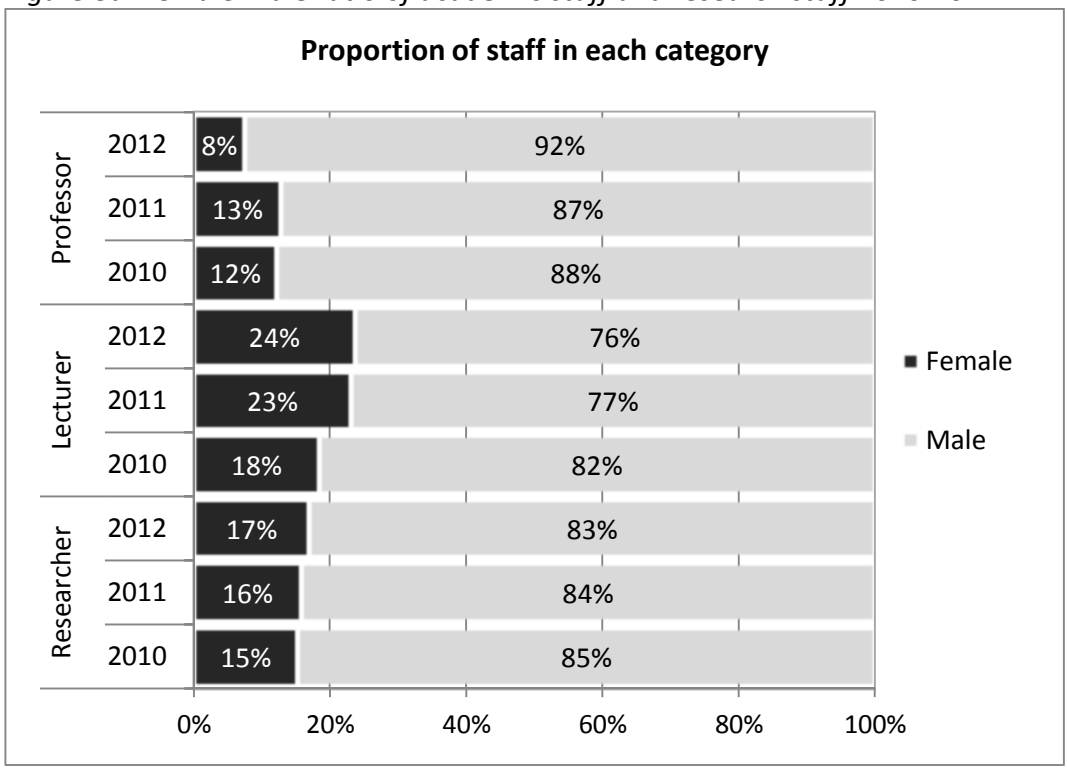


Source: Survey performed by the Careers Service of the University of Oxford to students six months after they leave the University as part of the Government's Destination of Leavers from Higher Education (DLHE) survey.

Staff data

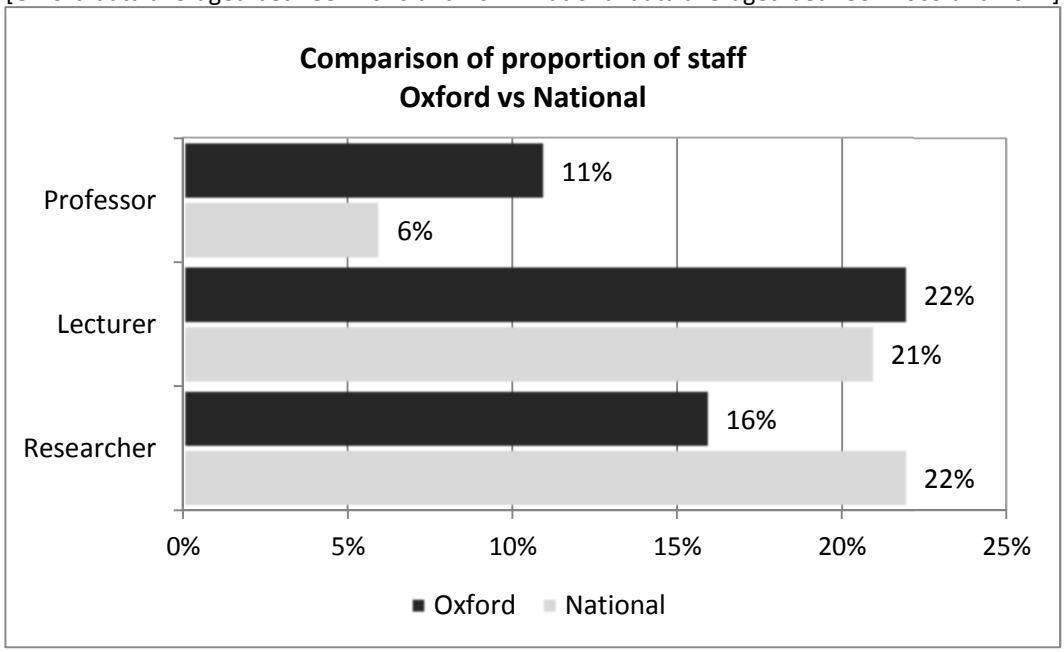
(vii) **Female:male ratio of academic staff and research staff** – researcher, lecturer, senior lecturer, reader, professor (or equivalent). comment on any differences in numbers between males and females and say what action is being taken to address any underrepresentation at particular grades/levels

Figure 8a: Female:male ratio of academic staff and research staff 2010-2012



Source: HR Data Mart Project, University of Oxford.

Figure 8b: Female:male ratio of academic staff and research staff average.
[Oxford data averaged between 2010 and 2012. National data averaged between 2009 and 2011]



Source: Advancing Women in Mathematics: Good Practice in UK University Departments. 2013. London Mathematical Society (LMS). Oxford data from the HR Data Mart Project, University of Oxford.
Note: The National figure given for Lecturer is Senior lecturer/Lecturer (teaching and research), as all Oxford lecturers perform research as well as teaching.

Figure 8a's data are snapshots and do not include joint appointments between departments. Current faculty figures including joint appointments are 151 academic staff in total: 44 professors of whom 6 (14%) are women, 41 lecturers of whom 9 (22%) are women and 66 researchers of whom 9 (14%) are women.

Our permanent academic posts are professorships (statutory, ad hominem or titular) and lecturerships. Lecturers are not distinguished by rank and are normally appointed jointly to a college and the university/department. The starting salary is roughly equivalent to that of senior lecturers elsewhere. PDRAs and research fellows are fixed-term appointments, often externally funded. The overall gender ratio, while higher than at other COWI mathematics departments, is low. In comparison with the national averages the imbalances are more serious in early career, whereas in absolute terms the shortage of women among the professors in the department is most acute. It is encouraging that the proportion of female lecturers is higher than for researchers.

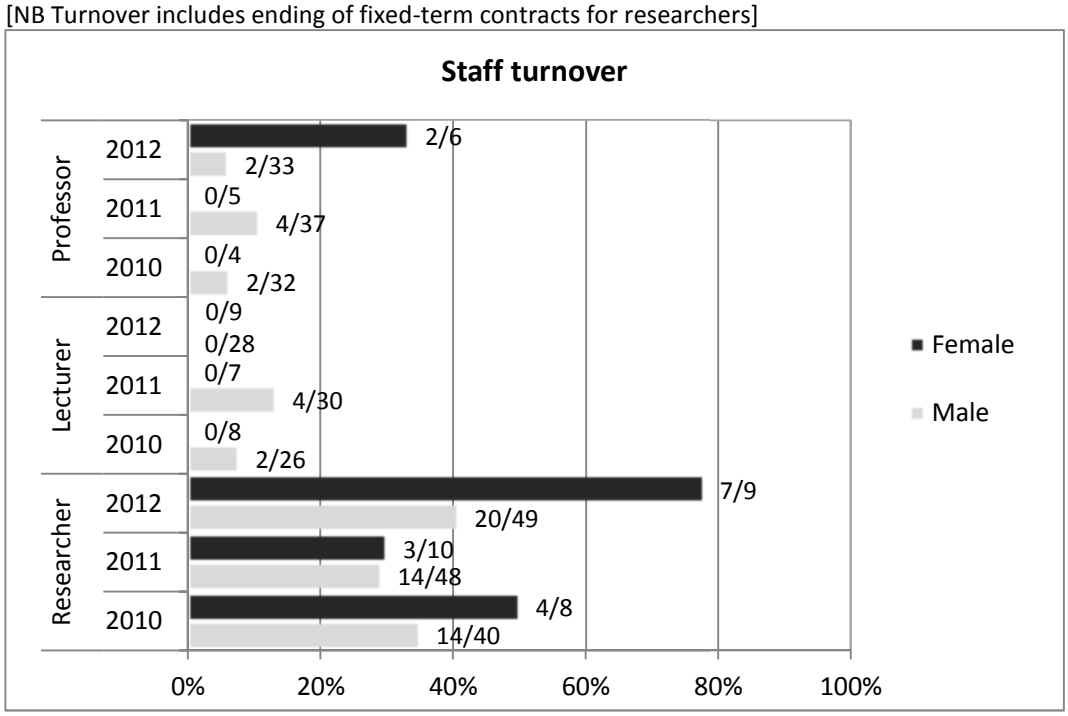
Action to address the underrepresentation of female faculty is described in sections 2 and 3 of the plan.

(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.

Turnover of academics is low. One female professor who left Oxford last year returned to a professorship in her home country and another moved abroad for family reasons. Postdoctoral researchers typically stay in the department for one fixed-term contract and then move to an academic position in another university.

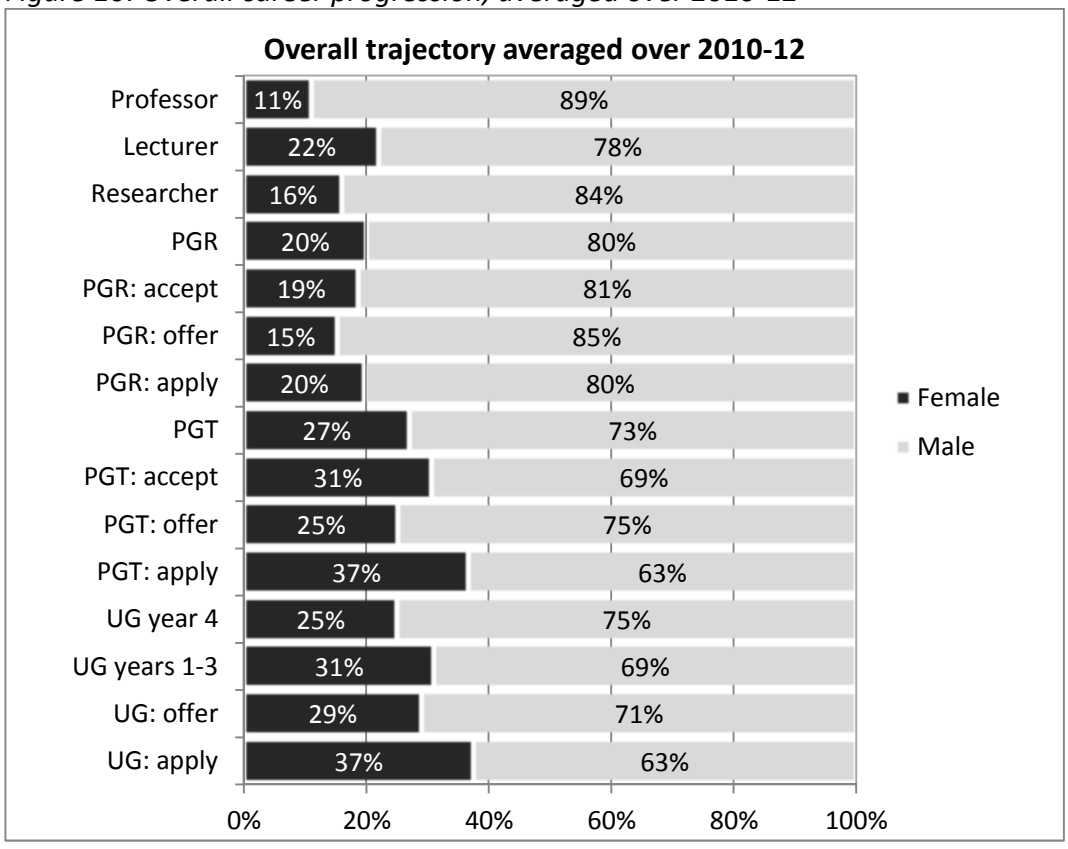
Figure 9: Turnover of faculty and research staff

[NB Turnover includes ending of fixed-term contracts for researchers]



Source: HR Data Mart Project, University of Oxford.

Figure 10: Overall career progression, averaged over 2010-12



Source: HR Data Mart Project, University of Oxford. (Professor, Lecturer and Researcher data). Examiners' Reports: Final Honour School of Mathematics & Philosophy Part C, Final Honour School of Mathematics Part C, and Final Honour School of Mathematics and Statistics Part C, years 2010-2012 (UG year 4). Student Data Management and Analysis Team, University of Oxford (Admissions data and UG years 1-3).

Note: The figures for Professor do NOT include joint appointments with other departments.

[Total 1995 words]

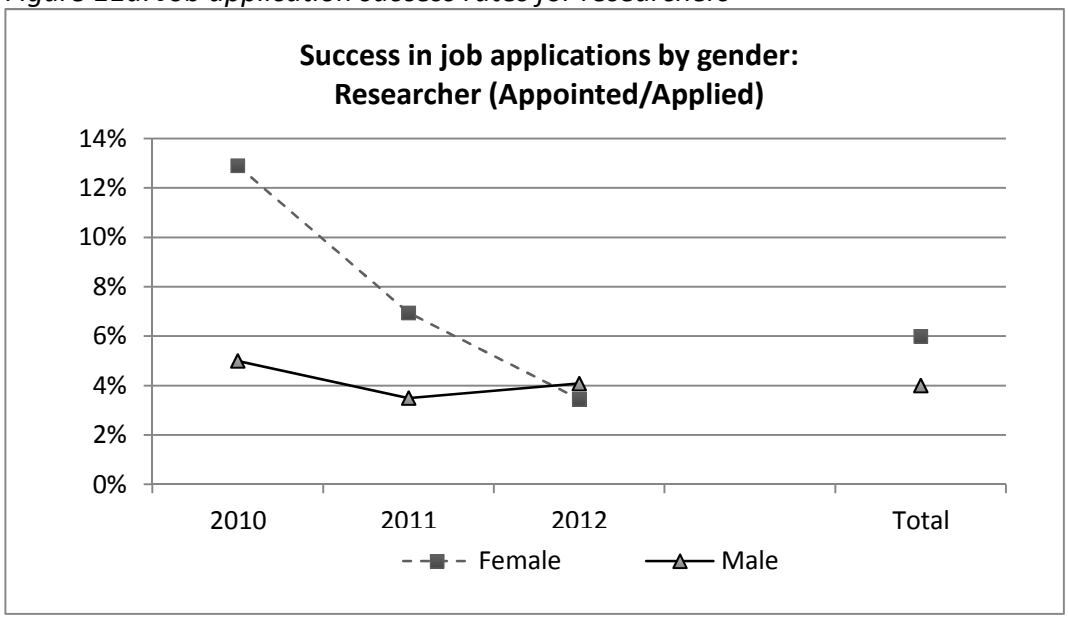
4. Supporting and advancing women's careers: maximum 5000 words

Key career transition points

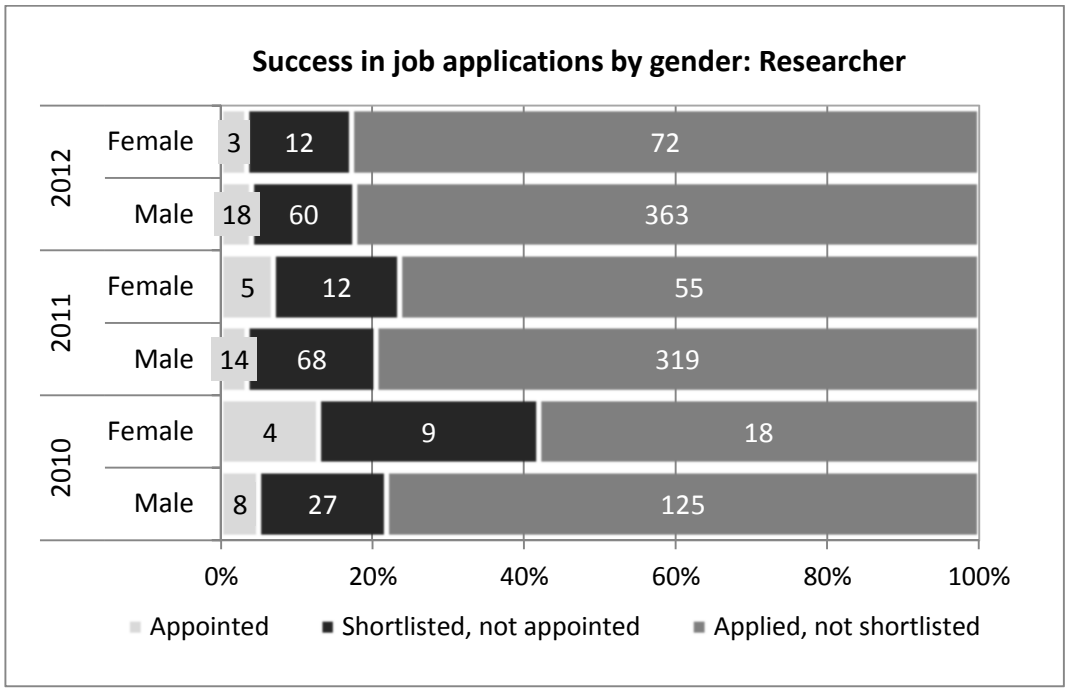
a) Provide data for the past three years (where possible with clearly labelled graphical illustrations) on the following with commentary on their significance and how they have affected action planning.

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

Figure 11a: Job application success rates for researchers

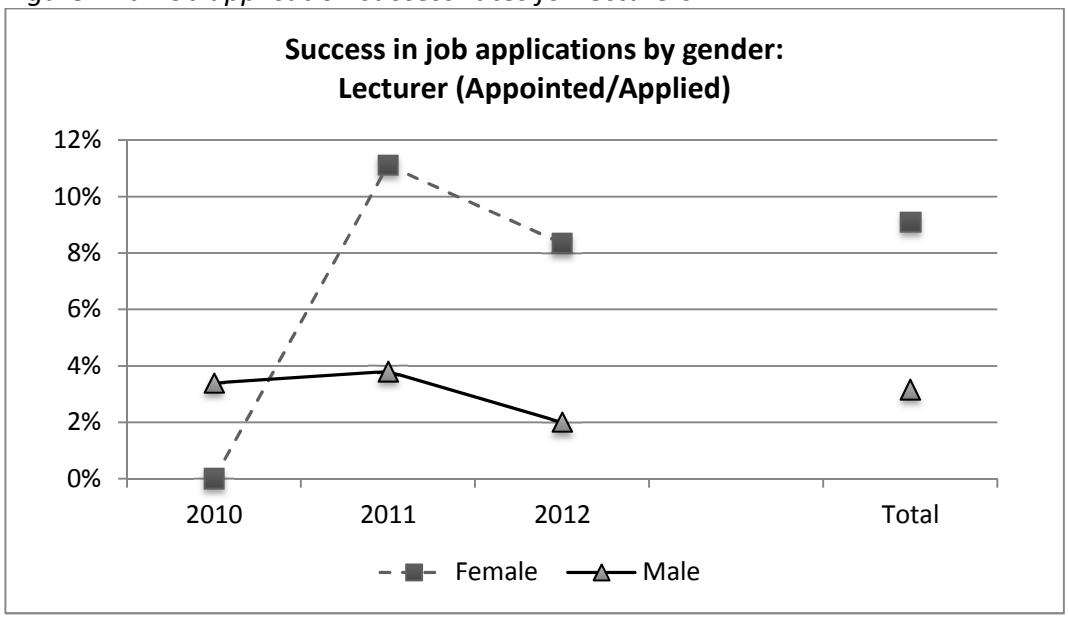


Source: HRIS Recruitment dataset, Mathematical Institute recruitment monitoring data.

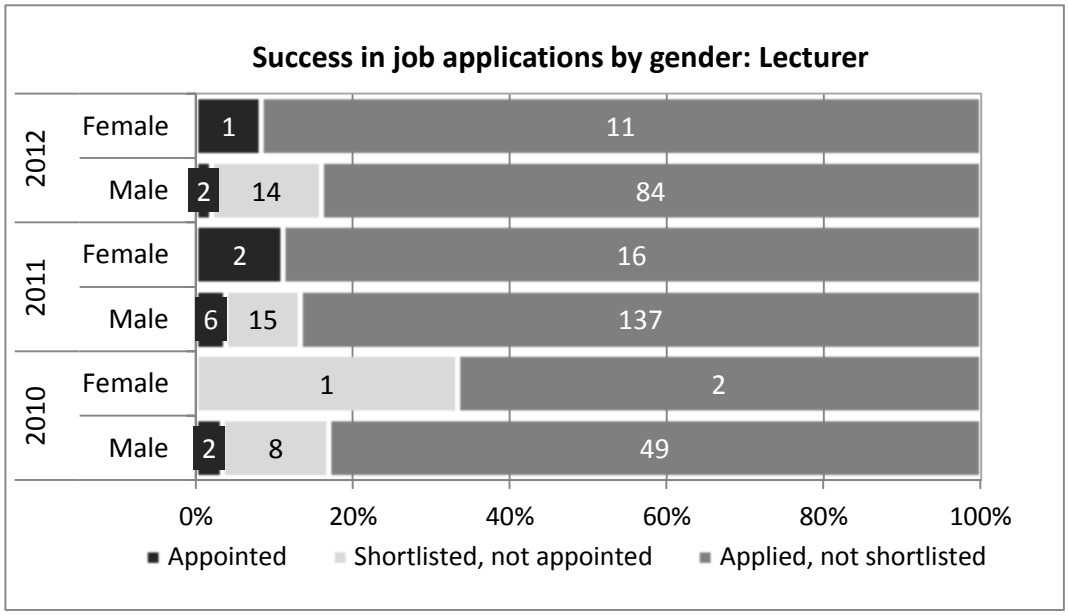


Source: HRIS Recruitment dataset, Mathematical Institute recruitment monitoring data.

Figure 11b: Job application success rates for lecturers



Source: HRIS Recruitment dataset, Mathematical Institute recruitment monitoring data.



Source: HRIS Recruitment dataset, Mathematical Institute recruitment monitoring data.

The application success rate for female researchers is better over the last three years than for men. Although with an average four or five appointments a year the numbers for permanent academic positions are typically too small to be statistically significant, women were more successful in 2011 and 2012. In 2013 one lecturership has recently been offered to and accepted by a woman, while in 2012 three offers of permanent positions were made to women. Sadly one was turned down for family reasons, although help including a nursery place was offered, and a second was lost to a highly competitive offer from the USA.

The principal recruitment challenge for all posts is to increase the number of female candidates, which ultimately involves increasing the number of female mathematicians further down the pipeline. In the short term our action plan includes advertising on the email list for European Women in Mathematics. Although many countries have as few female mathematicians as the UK, some, especially in Southern and Eastern Europe, have larger numbers. Our assessment is that the quality of female applicants can be excellent, but there are insufficient applications. The paucity

of female candidates means that if high-flyers are lost (because they can choose between several offers) the next candidate is likely to be male.

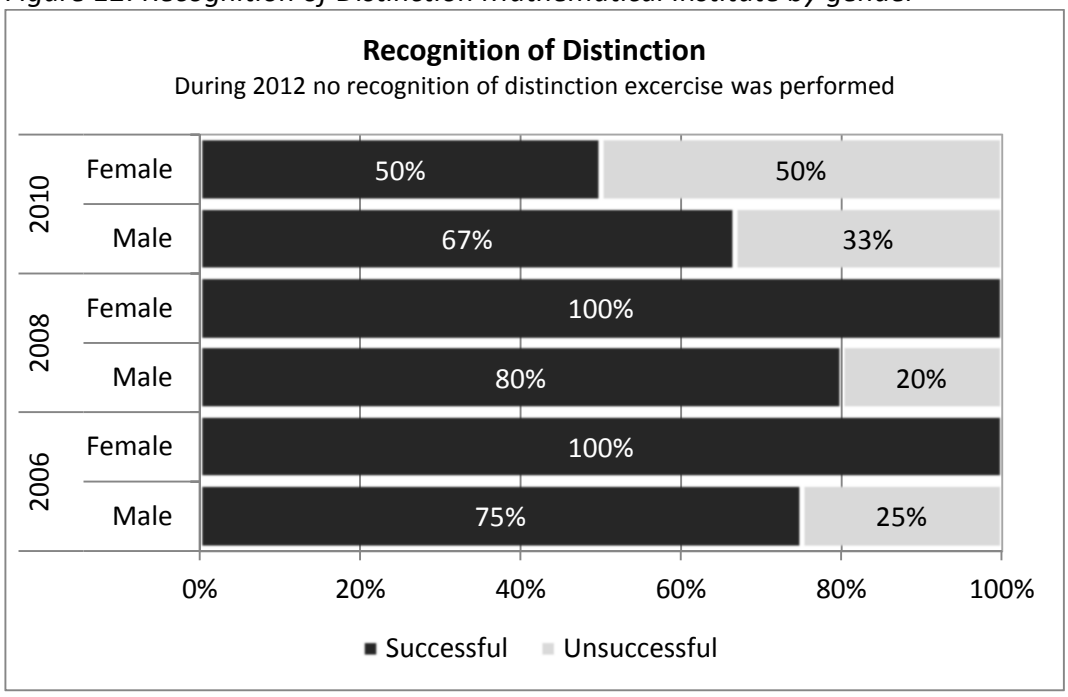
The department has recently (2013) funded eight research fellowships in order to stimulate growth in particular areas. We were particularly pleased that, of four Titchmarsh fellows (pure), one woman was appointed, and of four Hooke fellows (applied), one woman was appointed, giving a much higher proportion (25%) of female appointments than we currently have.

(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.

Oxford does not have a formal promotions process. All appointments to lecturerships and statutory professorships are made through open competition when vacancies arise, and internal applications are encouraged.

However, lecturers are invited to apply for the title of professor in the biennial Recognition of Distinction (RoD) process, which will from 2014 be linked to merit pay. Professors can also apply for Professorial Distinction Awards (with salary implications). Plans for a system of merit pay for lecturers are in train.

Figure 12: Recognition of Distinction Mathematical Institute by gender



Source: HR Data Mart Project, University of Oxford.

Eligible departmental members are informed about the RoD exercise and encouraged to discuss it with the HoD. A female departmental member who was on the university's RoD panel in the past is available to provide additional advice.

In the last RoD exercise, from the 35 eligible members of the Mathematical Institute, of whom 8 were women and 27 were men, one woman (12.5%) and two men (7.4%) were awarded the title of professor.

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.

A big challenge for the department in recruitment is trying to increase the proportion of female academics. However, this problem exists world-wide and it is virtually universal among top mathematics departments. Competition to hire excellent female mathematicians is intense at all levels, but especially for faculty.

All appointment committees (including for postdoctoral positions) responsible for short listing, interviewing and selecting candidates always contain at least one woman and at least one man, and follow the university's equality and diversity code of practice on recruitment and selection. For some time the chairs of these committees have been required to have attended equality and diversity briefings, and we have extended this policy to provide briefings for all departmental members. Advertisements for all academic posts in the Mathematical Institute include the statement: 'Applications are particularly welcome from women and black and ethnic minority candidates who are under-represented in academic posts in Oxford' and have the tag line 'committed to equality and valuing diversity'.

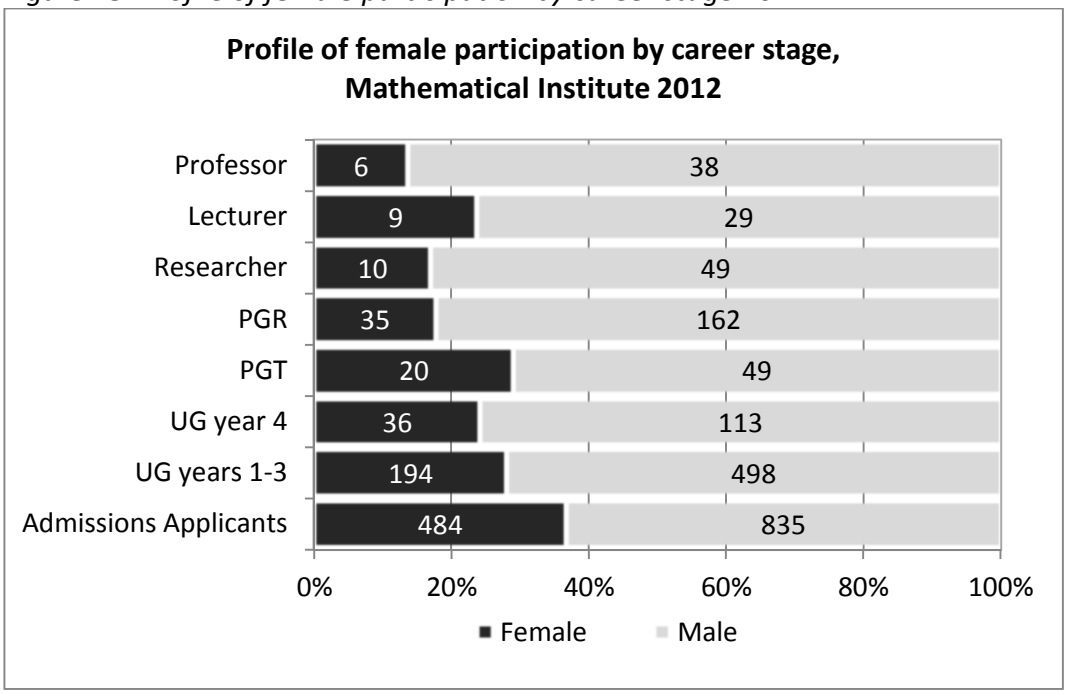
Some improvements have been made recently to further particulars for academic positions (including researchers) in relation to maternity, paternity and adoption leave and the availability of nursery provision, and these now give links to the new Good Practice webpages. This was in direct response to suggestions made in our staff survey.

Work has been done (and will continue) to make the Mathematical Institute's website more attractive to potential female applicants. In particular we have developed new webpages (see www.maths.ox.ac.uk/notices/good-practice) including links and resources for women, parents and carers; on disabilities, harassment, sexual orientation and race; and with different pages for prospective students, undergraduates, graduates, postdocs and academic staff. The webpages include a 'Spotlight on Women Mathematicians at Oxford', and in the section of the main website entitled 'About us', first names have replaced initials to identify female members of the department. 'Memories of Mathematics at Oxford' will include interviews with many of the women mathematicians in Oxford in the 1970s and 1980s.

The team will continue to learn from good practice at other universities (for example using the Athena SWAN emailing list). We will explore other ways of increasing the number of female candidates, including tracking the careers of female mathematicians, and in the long term expanding the pipeline.

(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.

Figure 13: Profile of female participation by career stage 2012



Source: Internal Mathematical Institute data (Professor, Lecturer and Researcher data). Examiners' Reports: Final Honour School of Mathematics & Philosophy Part C Final Honour School of Mathematics Part C and Final Honour School of Mathematics and Statistics Part C years 2012 (UG year 4). Student Data Management and Analysis Team, University of Oxford (Admissions data and UG years 1-3).
Note: These figures include joint appointments with other departments.

It is noticeable that there is no drop in the proportion of women from DPhil through researcher to lecturer, which is often the point where attrition occurs in the child-bearing years for women. We are not, however, complacent about this and seek to support women at all stages of their careers.

The department funds three research facilitators who provide all academic staff with assistance in applying for research funding and fellowships and arrange for advice from other departmental members on draft applications. Their role is highly pro-active, and their advice extends to PGR students and postdocs entering their final year, which complements careers advice offered by the university and supervisor appraisal for postdocs.

The Springboard women's development programme run by the Oxford Learning Institute (OLI) is a central, university-wide resource. Of the departmental members who responded to our staff survey in 2012, 31% of women said they had participated in the Springboard programme. Springboard activities are promoted through the Good Practice webpages and by email circulation.

The Oxford Learning Institute also has a pilot mentoring scheme for senior women, called 'Ad Feminam', whose aim is to help address the under-representation of women in senior academic and administrative leadership positions at Oxford, with mentoring intended to encourage women to explore their leadership potential. Professor Alison Etheridge is a mentor on this scheme.

Many (but not all) academic staff have college attachments which provide further opportunities for networking and support. Most postdoctoral researchers do not have such close links to a college. To counter this, one postdoc has established Mathematrix: weekly brown bag lunches (supported by the department) for female faculty and students to talk about topics of general interest, including but not limited to family and gender-related matters. In addition, female mentors were introduced in 2012 for female graduate students and postdocs. Two senior female

academics (pure and applied mathematicians) act as mentors. Early each academic year they invite all new female PGT and PGR students and postdocs to a sandwich lunch to introduce themselves, describe the resources available to women in the department and the university, in particular via the department's Good Practice webpages, and explain that they are available (in addition to the many other sources of help in the department) if ever the students or postdocs would like advice from a senior woman mathematician. We will monitor the amount of advice requested and if necessary adapt and extend the scheme.

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?

Academic staff at Oxford University normally hold appointments with a five-year initial period of office followed by a review and reappointment to the retiring age. During the five-year initial period lecturers in the department are given a mentor to provide general support and advice, and have two formal appraisals including a self-assessment and a peer/external review which includes lecturing, college teaching and pastoral responsibilities, research and administration.

The department has an annual appraisal scheme for all permanent academic staff, which is intended to help the raising of general concerns about workload and duties and asks individuals to reflect annually on what they are doing and wish to do, and comment on what the university or department could realistically do to improve their working lives. In addition there is an opportunity for an individual discussion with the appraiser (normally the Head of Department) each year, and such a discussion is mandatory every five years.

The primary criterion for the main promotion process for academic staff (the Recognition of Distinction by the award of the title of professor) is outstanding research, comparable in distinction with that expected of a professor in other major research universities. Teaching and administrative duties also contribute, and in all cases account is taken of career breaks for maternity leave and other caring responsibilities.

In respect of fixed-term research staff, appraisal and career development falls within the provisions of the Concordat. This requires the supervisor to meet the postdoc at three stages to set out the initial expectations, hold a formal mid-term review which includes performance and career trajectory, and discuss future funding and career options. In the department this is shored up by the support given by the research facilitators and initiatives (such as mentoring) introduced at departmental level. The 2012 staff survey indicated that the implementation was inconsistent across research groups and we have improved our information (via the website and induction materials) in order to help researchers understand what they should expect, and supervisors what to provide.

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

flexible working policy, and professional and personal development opportunities promoted to staff from the outset?

The department has a three-pronged approach to induction. At the outset, each individual receives an initial introduction to the department, its IT systems and support, and the services to faculty such as research facilitation. Teaching induction is given by the department's teaching advisor and the academic administration team. All faculty members have a meeting with the Head of Department, whose role (amongst other things) is to explain the department's general academic vision, and to set out expectations for workload and research direction. The most detailed discussions are with the research group head and where appropriate the supervisor(s) and include research and career plans. The department's webpages include links to university pages that provide support for the process (for example: Oxford Learning Institute's online induction course for new staff 'Welcome to the University' and termly 'Welcome to Oxford' events for new researchers).

A second aspect of induction is the events for groups of staff. This enables new staff (in future including postdocs) to get to know each other and typically includes a lunch for new and existing members. Although this is common in most research groups, we have also introduced departmental-wide events (sometimes topic-specific) to encourage broader connections. These events have to be carefully timed as new hires may start at various points in the year.

The third aspect is follow up after a few months, to reinforce understanding of key areas of support, whether provided by the department or from elsewhere in the university. This was introduced in response to the 2012 staff survey findings which suggested that the department's induction for new faculty and researchers was inadequate. One problem was that although the policy is clear, it was not being consistently applied and postdocs in particular may have widely varying experience. The problems have been exacerbated by the department being spread out over three separate sites, which have differing operating practice. To a certain extent, this will go away once the department moves to its new building this summer, as many site-specific practices will be amalgamated. However, the department has also developed guidance for postdoctoral supervisors and a checklist to assist with monitoring.

In response to the staff survey the Good Practice Steering Group recommended that newcomers' experience of induction should be checked at the end of their first three months, so that any misunderstandings could be addressed. This initiative has been welcomed and will be routinely implemented from 2013-14. Recent support staff appointments are aimed at supporting induction, including for students and visitors. The GPSG also felt that the website could hold much more information, and the redevelopment of the site will address this. The Good Practice pages are one of the focus points for such information, but the aim is to set up a newcomers' area that links to key policies and other useful information. The departmental handbook, formerly in hard copy, is in process of being migrated to and restructured for the website.

(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.

Every graduate student in the Mathematical Institute is attached to a college, and receives pastoral support from the college as well as through the department. In particular any female student will have access to her college's Women's Officer and Harassment Officers. She will also have a college advisor who is normally one of the college tutorial fellows in mathematics and can give independent advice in the event, for example, of difficulties in her relationship with her research supervisor or a wish to change research topics and therefore to find a new supervisor.

Within the department there are also sources of mentoring and advice, including Harassment Officers (one male and one female), the Director for Graduate Studies, heads of research groups and departmental advisors, research facilitators, as well as the student's research supervisor.

The department has introduced a system in which every female graduate student (PGT or PGR) is offered a senior female academic as a mentor in addition to the other sources of advice available to all graduate students.

The Springboard programme described above is run for graduate students and also for undergraduates, and we encourage all female department members to attend.

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.

Diagram 1: Governance Chart Mathematical Institute, February 2013

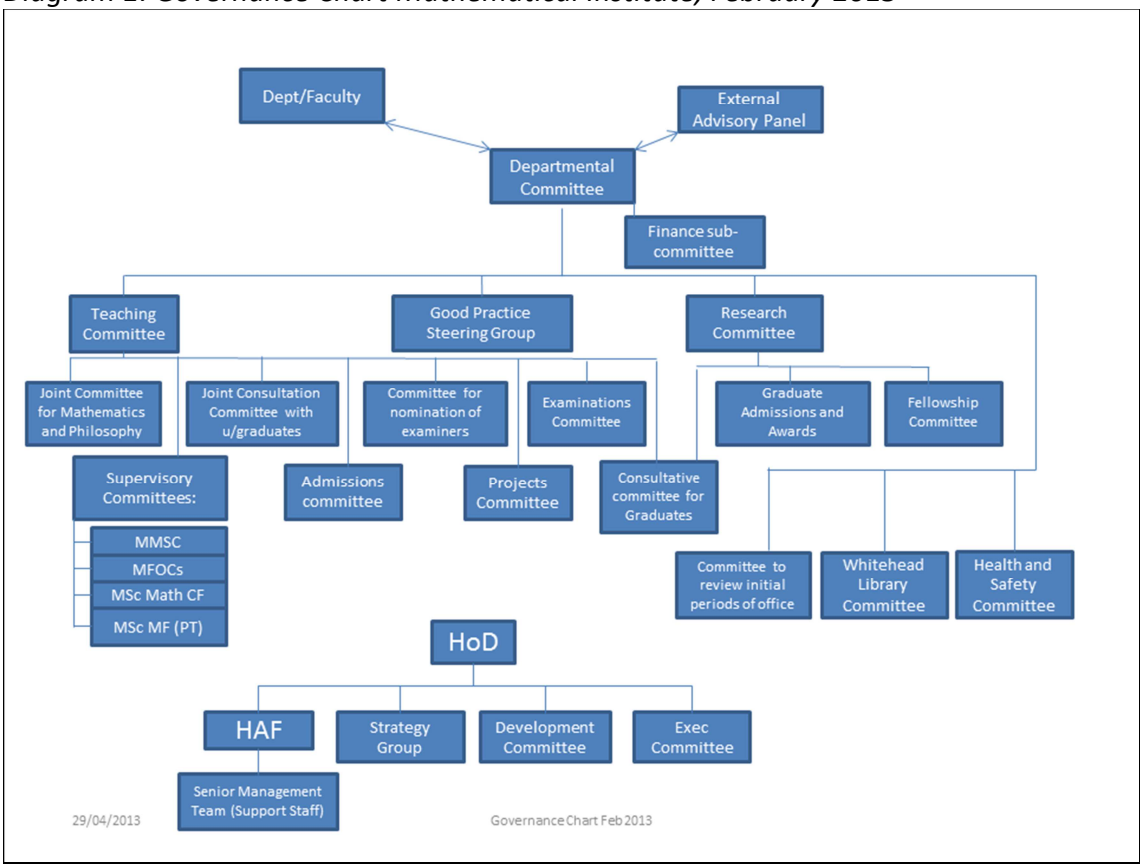


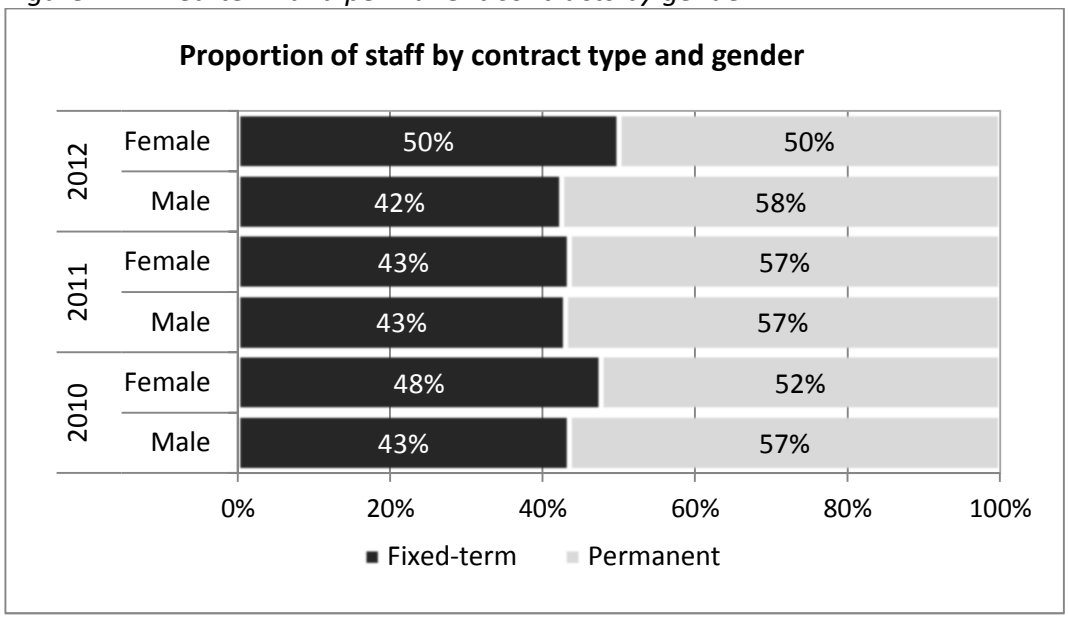
Table 2: Membership of departmental committees by gender

	2010/11		*2011/12*		*2012/13*	
	Female	Male	Female	Male	Female	Male
Departmental Committee	4	10	2	12	2	14
Executive Committee	1	8	1	9	1	9
Senior Management Team	10	2	8	4	10	4
Research Committee	3	20	3	21	3	18
Committee to review initial periods of academic appointments	2	2	1	3	1	6
The Whitehead Library	4	6	4	6	2	8
Safety Committee	3	4	2	5	3	3
Admissions Committee	0	7	1	5	1	6
Examinations Committee	Not yet formed	Not yet formed	5	9	2	9
Graduate Admissions and Awards Committee	0	4	1	4	1	4
Fellowships Committee	Did not meet	Did not meet	1	4	1	5
Joint Consultative Committee for Undergraduates	6	9	5	10	4	12
Joint Consultative Committee for Graduates	2	3	2	3	0	5
Teaching Committee	4	10	3	11	0	12
Steering Group on Good Practice	5	4	5	4	10	6
New Building Working Groups:						
a) Technical IT	Did not meet	Did not meet	0	3	0	4
b) Teaching Space, meeting rooms & AV	Did not meet	Did not meet	3	7	3	7
c) Office Space	Did not meet	Did not meet	2	6	2	5
d) Arts	Did not meet	Did not meet	2	4	2	4
e) Library	Did not meet	Did not meet	2	7	3	7
Departmental-Faculty Meeting	**not a committee - automatic membership**					

Membership of a few committees is ex officio. Others include a mixture of ex officio and elected members (Departmental Committee, Teaching Committee), or elected and invited members (Research Committee and appointment panels), where the invitations come from the HoD and are intended to ensure that the right mix of expertise is present, and that both genders are represented. A few are a made up of a mix of ex officio and volunteers (e.g. New Building Working Groups). In recent years women have been represented on all the major committees in rough proportion to their numbers on the academic staff. We have not set any formal quotas as we do not want our limited number of senior female staff members to be overburdened with administrative duties.

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

Figure 14: Fixed-term and permanent contracts by gender



Source: HR Data Mart Project, University of Oxford.

There is no statistically significant difference between the female:male ratio of academic and research staff on fixed-term contracts and open-ended (permanent) contracts in the department.

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?

The department's policy is two-fold: to have, where possible, at least one woman on each influential committee; and to ensure women have opportunities relatively early in their career to serve on committees that will build their experience. This is not always achievable if there are insufficient numbers of women at the right level, but women are represented on the major decision-making committees in the department in rough proportion to their numbers.

The principal difficulty in filling committees and filling positions of responsibility in the department is in finding people who both have the relevant expertise and are willing to serve. With our relatively small number of female academics, overload on women is an issue of especial concern to the HoD, who is very conscious of the need to achieve a balance between gender equality and overload. Women are invited to serve on decision-making committees and take positions of responsibility in the department, but are under no pressure if they are too busy in other ways.

Women from the department have also served as members of influential university committees, such as the University Council and the university's Recognition of Distinction Panel, and on external bodies in the UK and beyond.

(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.

Workload monitoring is undertaken by the Head of Department, who has to approve all applications for buyouts of time (reapportioning work between the department and colleges for individual staff members), sabbatical and other leave, and remission from some departmental teaching for those with significant research projects. In particular he takes into account outreach and Athena SWAN / Good Practice activities. He recommends, for approval by Executive Committee and the Departmental Committee, allocation of administrative duties in the department. Through Teaching Committee for approval by the university, the department allocates examining, supervisory and decision-making duties for our courses. The HoD is also responsible for ensuring that new faculty (those in the first five years of appointment) have workloads commensurate with their experience and development needs (one lecture course is routinely remitted in the first year). The HoD is supported by the research group heads, supervisors and Personnel staff in this work. This system takes into account a wide range of factors that influence faculty member's capacity to undertake the teaching, research and administration that the department requires, and has the advantage of considerable flexibility to encourage and develop fulfilling individual academic careers. The department is currently designing a database to hold the range of data and underpin this significant activity.

There was no significant difference in the recent staff survey between male and female responses to questions on work and life balance. However there were concerns (from both men and women) on whether the allocation of workload was sufficiently transparent. At present, data on teaching and administrative duties undertaken by faculty is gathered annually but there is no systematic analysis of it and there is no integrated database containing all the information on who does and has done what work for the department. The Good Practice Steering Group has recommended improvements in both information and data gathering through the proposed database in response to the staff survey.

(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.

Departmental and committee meetings are timetabled months in advance to allow carers and others to plan their schedules. The regular meetings of our main committees are held between 10am and 1pm on weekdays in term time.

The termly departmental faculty meetings, to which all faculty members are invited, moved in 2011-12 to start at 4pm instead of 5pm to make it easier for those with family responsibilities to attend. The main purposes of these meetings are to disseminate of information to faculty members and to provide the opportunity for discussion of potentially controversial matters.

There are so many weekly seminar series (30 on the list for this term) that with very limited numbers of lecture and seminar rooms it is impossible to hold them all in core hours. However, three seminars (Topology, Industrial and Applied Mathematics, Mathematical Biology) have in recent years moved from 5pm earlier in the afternoon to make it easier for those with parental responsibilities to attend. Our move to the new and much larger building this summer will create

more flexibility for scheduling. Research Committee recently referred back the draft schedule for 2013-14 to seminar series organisers, asking some to reconsider their proposed timings to ensure the widest possible attendance by carers and others.

The main social gathering of the year is the Christmas party, an afternoon event to which partners and children of all ages are welcomed.

Smaller social gatherings initiated by the GPSG started with a sandwich lunch for all women in the department before the Mary Cartwright meeting held by the London Mathematical Society in Oxford in February 2011. The GPSG expanded the LMS Mary Cartwright meeting (attended by mathematicians from all over the country) by providing beforehand a sandwich lunch for all female graduate students and academic staff in the department and a research careers event for finishing graduate students and postdocs (male and female) with female speakers from Oxford and the Rutherford Appleton Laboratory. Similar lunches and careers events have been repeated in successive years. The Mathematrix lunches for female staff and students (see page 21) are very popular; topics for the coming term are: “Defining success”, “Imposter Syndrome”, “Stereotype Threat”, “Solo Status”, “Implicit Bias”, “Dual-career families”, “Role Models”, and “Long term goals”.

The GPSG is concerned that some researchers (male and female) are much less well integrated socially into the department and the university than the rest of the mathematical community in Oxford. All students (UG, PGT and PGR) and almost all academic staff in the Mathematical Institute are attached to a college as well as to the department, and the college provides a great deal of support, in particular on the social side. However although some researchers have a college attachment (for example as Junior Research Fellows), a large number has not; likewise although many researchers are well integrated (socially and otherwise) into their research groups within the department, there are some who do not belong to a large group and are rather isolated. One attempt to address this problem was the provision of sandwich lunches for researchers in the department on the occasions of colloquium talks by eminent outside mathematicians. The intention was to give researchers the opportunity to meet each other and also the colloquium speakers (male and female eminent mathematicians from outside Oxford), although the turn-out was somewhat disappointing. Another attempt to address it is the improved and significantly larger space provided by the new building which has been explicitly designed with a view to fostering increased interaction amongst members of the department.

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

The department attaches importance to the availability of role models for its female undergraduates: in each of the last 8 years, four or more first year lecturers have been female faculty members. In a similar vein, it has been common practice to ensure as much as possible a range (male-female, senior-junior) of speakers at departmental open days. Our action plan includes ensuring that at each open day at least one speaker is a female faculty member, and that three or more courses will be delivered by female mathematicians for both the first and second undergraduate years.

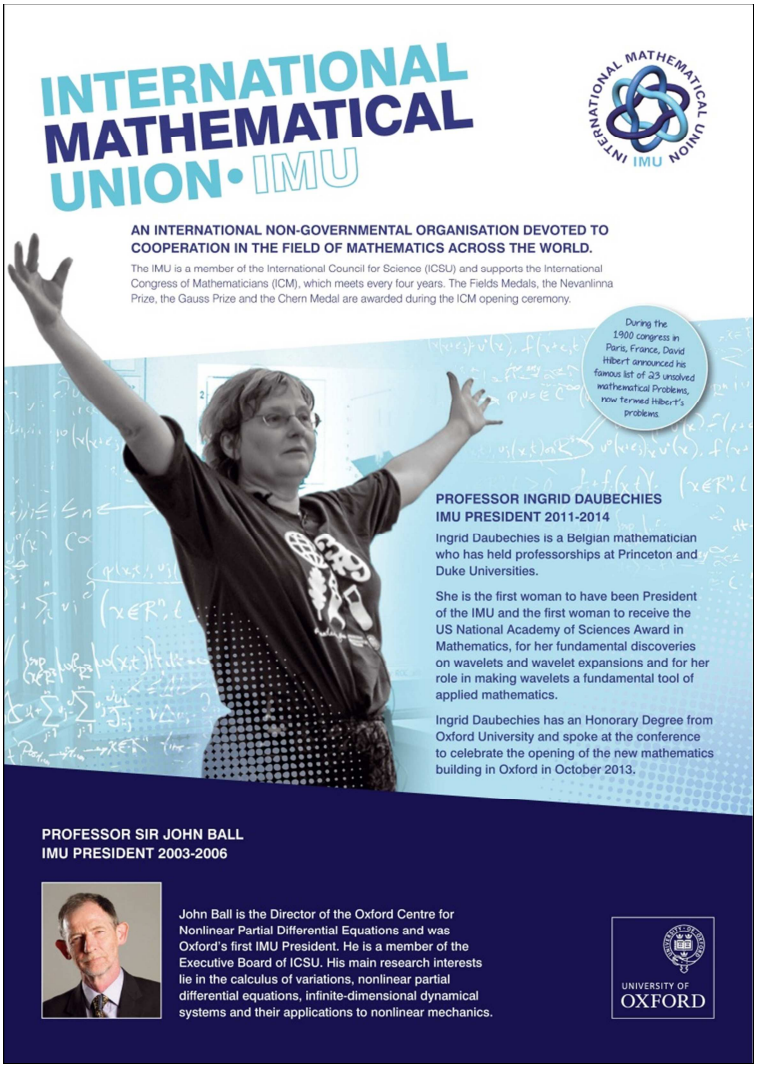
Nearly three-quarters of the academic and research staff who responded to the 2012 staff survey agreed that there is a strong feeling of team work generally in the department, with no significant

difference between male and female responses. Several respondents commented on the friendly and inclusive nature of the department.

It is hoped that the opening of the new Mathematical Institute building in summer 2013 will significantly improve the working environment and thus to some extent the culture of the department. All academic and non-academic staff were strongly encouraged to join the New Building Working Groups or to provide input into the design of the new building in other ways. The design aims to promote interaction, with an attractive common-room for staff and research students and a layout with offices opening off atria. There will be lecture and seminar rooms in the basement with much more natural light than in the current building, and an area for students to use between lectures. In addition the new building will have kitchens, plenty of unisex toilets, baby-changing facilities and a first-aid room which can be used for breast-feeding and expressing milk.

The move is providing opportunities to raise the profile and visibility of women in Mathematics. The team will decorate some of the student area in the basement of the new building with posters of female mathematicians past and present, one from the American Mathematical Society (AMS), and others designed by the team.

Figure 15: Sample poster



In addition new webpages have been developed on the Institute's website. A project ('Memories of Mathematics at Oxford') is being developed to accompany the history of the department up to around 1970 by Ida Busbridge which is already on the website; this will stress the important part played by female mathematicians in Oxford mathematics over the last four decades.

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

The department is strongly committed to an access programme promoting undergraduate mathematics to all prospective students. Female students and departmental members take part in outreach activities, especially those which take place in Oxford, but are not overburdened with outreach outside Oxford; most of the work is done by the Schools Liaison Officer. At the moment there is no formal recognition of departmental members' outreach activities, but this will be added to the workload database being developed.

The department is working closely with the UK Mathematics Trust (UKMT) to set up an annual mathematics summer school for girls in Oxford. UKMT runs the Maths Challenges entered by around 600,000 schoolchildren each year and the follow-up competitions and Olympiads, as well as mentoring schemes for high achieving pupils and summer schools (which always have a large majority of boys). The first such summer school for girls only, run along the same lines and for around 40 girls, will take place in Oxford in August 2013. The aim is to inspire (and prepare) larger numbers of mathematically able girls to study Further Mathematics A'level and mathematics (or related subjects) at university. Care will be taken that the girls-only school does not reduce the numbers of girls attending the other UKMT summer schools.

UKMT (chaired by Frances Kirwan, the GPSG chair) is well aware that girls are not well represented towards the top of the Maths Challenges and Olympiads, as well as among maths undergraduates at leading universities. Inspired by the success of the China Girls' Mathematical Olympiad, UKMT launched a European Girls' Competition (EGMO) in 2012; the first EGMO was hosted by Murray Edwards College in Cambridge. The 2013 summer school for girls in Oxford (funded largely by our department) is another step towards the long-term goal of increasing the numbers of female undergraduates in mathematics; it will be repeated in 2014 and, we hope, annually thereafter.

Advances created by this initiative in the numbers of female mathematics undergraduates admitted to Oxford and other leading universities are unlikely to be seen in the short term.

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.

Two female academic staff (one research fellow and one lecturer) have taken maternity leave in the last three years; both have returned to work. Currently one professor is on maternity leave and one lecturer is about to take hers.

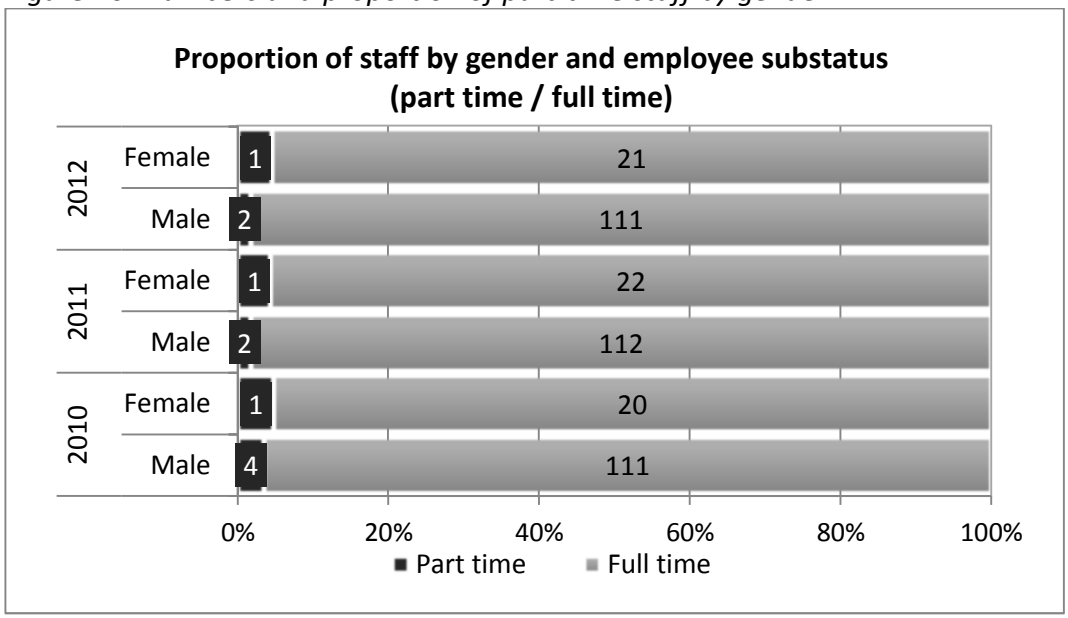
(ii) **Paternity, adoption and parental leave uptake** – comment on the uptake of paternity leave by grade and parental and adoption leave by gender and grade. Has this improved or deteriorated and what plans are there to improve further.

Six male academic staff (one professor, three lecturers and two postdocs) have taken paternity leave in the last three years; this has become more common than in the past.

The department encourages flexible work patterns by parents and carers, and believes that a work culture in which men take paternity leave and adjust their time schedules to fit in with the school run and other caring duties makes it much easier for women to do the same, as well as sending a positive message that caring duties should be the responsibility of both men and women.

(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.

Figure 16: Numbers and proportion of part-time staff by gender



Source: HR Data Mart Project, University of Oxford.

Since so many staff have joint appointments from the university and a college, with great flexibility between the two built in, formal application for flexible working is rare. All contracts are designed to offer considerable freedom to the individual to organise their working life as suits them, and they are generally interpreted flexibly. This freedom is also reflected in the low level of part-time contracts.

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.

Since all staff members have considerable freedom, contractually, to manage their own time, there have been no formal requests for flexible working.

The working culture in the Mathematical Institute is built around flexibility; only a small minority in the department work a standard 9am-5pm day, although in fact the parents of small children using one of the university or college nurseries are among those whose work patterns most closely approximate the standard working day. Each year, for example, lecturers are asked when they will be available to lecture the following year and they can ask for lecturing times between 10am and 3pm because of parental responsibilities; the GPSG Chair avoided lecturing at 9am for twenty years on those grounds.

The main concern for the department is ensuring that new appointees are fully aware of the opportunities for flexibility, and that the induction process adequately explains the responsibilities both in respect of the department and in regard to the individual's needs.

(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.

There are standard procedures in place to cover leave of all sorts by academic staff, including sabbatical as well as maternity and adoption leave. Sabbatical leave (one term's leave for every six terms of qualifying service) is regularly taken by academic staff and arrangement of cover for any leave period is a never a problem. Academic staff members have access to all departmental facilities, including offices, while on maternity leave.

All eligible university staff (including academic and research staff) are entitled to 52 weeks' maternity leave, with 26 weeks on full pay, 13 weeks on statutory maternity pay and 13 weeks unpaid. With the help of the university's salary sacrifice scheme they can use any of the four university nurseries, the four college nurseries, or the five private nurseries with subsidised university places.

The university provides support for parents with childcare and a culture in which flexible working is encouraged. However something which the university does not currently provide is support to help academic parents attend conferences. The London Mathematical Society (LMS) does this for mathematicians by offering grants to cover extra childcare for children accompanying their parents at conferences, or for children left at home with other carers. These grants are advertised to members of the department by email and on the Good Practice webpages.

In 2011 the Mathematical, Physical and Life Sciences Division (MPLS) agreed with the EPSRC to commit a proportion of the Developing Future Leaders funding to support women returning from maternity leave to re-establish scientific careers. This was advertised to the department, and two departmental members applied for and were awarded grants for attending conferences, training, teaching buyouts, research assistance and collaboration visits (see second case study, page 38).

The department has recently supported a Grace Chisholm Young Fellow. These fellowships are offered by the London Mathematical Society (LMS), with the assistance of a host department, to mathematicians who need support when their mathematical career is interrupted by family responsibilities, relocation of partner, or other similar circumstance. The aim is to make possible some continuous mathematical activity and endorse the holder's status as a mathematician, so

enabling the fellow to be in a position to apply for posts when circumstances allow. The fellowships are advertised on the department's Good Practice webpages.

[Total 4928 words]

5. Any other comments: maximum 500 words

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

The context of Mathematics as a subject is critical to understanding the thrust of our actions. Here is how we described it for the MPLS divisional review of 2010 (note that one subsequent outcome from this was our support for the LMS Good Practice Scheme):

"1.3.11 Gender Balance

Oxford is not alone in having a low proportion of women in its mathematics department, particularly at the more senior levels. This is a worldwide phenomenon that appears to have deep cultural roots. No woman has ever won a Fields Medal. In all its history, the Royal Society has elected only five female mathematicians to its fellowship (two are currently members of the department).

It is difficult to correct the deep-seated imbalances at the point of admission of students or the appointment of academics, and the department has not taken any formal steps to attempt to do so by systematically favouring women at any level: that would not be permitted. However there is strong awareness of the problem and there has been some modest progress. Despite the retirement of five CUF lecturers from posts at the former women's colleges, the number of women in permanent academic posts in the department has increased, from 11 in 2000 to 16 in 2009. The department has seen the appointment of its first female statutory professor (Thaleia Zariphopoulou, as Man Professor of Quantitative Finance). In 2000, only one woman in the department held the title of professor, and only one held the title of reader. There are now six female titular professors and two titular readers.

An analysis by Nigel Berry for the review panel indicates that the introduction of a separate classification for the third-year undergraduate examination may have encouraged more women to stay for a fourth year, and therefore to extend their mathematical education.

There have also been setbacks. The table below shows the number of men and women starting the Mathematics degree programme in each year, with application success rates (%) in brackets.

	2005	2006	2007	2008	2009
Male	128 (36)	139 (29)	128 (25)	127 (25)	128 (23)
Female	69 (29)	58 (22)	56 (19)	55 (17)	52 (15)

Over the period of the review, the number of men beginning the degree programme each year has remained roughly constant, while the number of women has declined, with the decline being most marked amongst female home students. The remarks above should caution against ignoring the impact on these figures of other changes over the period.

In September 2009, the London Mathematical Society launched a scheme ('The Good Practice Awards') to promote the advancement of women's careers in mathematical science departments. The departmental committee will consider whether to participate."

[Total 445 words]

6. Action plan

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

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

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

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

Case studies are not included in the public application document.

What issues have been identified through data gathering and consultation?	Actions addressing these issues	What actions have been taken already by March 2013?	What further actions are planned from March 2013 and for the next three years?	What will success look like initially (within the next three years)?	What will success look like longer term?	People responsible for taking actions / communicating them to staff	Targets and timelines	Priority
1. UG and PG students (see also 6. Website)								
Female:male ratio for undergraduates is lower than the national average.	**1.1**	MI has monitored gender data on undergraduate admissions carefully for many years. MI has taken part in annual Women in Science (WiS) events for schoolgirls (MPLS departments, run since 2010) and other access initiatives.	Continue to monitor gender data on undergraduate admissions. Continue to support and participate in access initiatives such as WiS, annual UNIQ summer school (and see 1.10 below), Oxbridge Regional Conferences, Oxford Teacher Conferences, FMSP Masterclasses, Oxford Study Days, FEAI Consortium Open Days, etc.	More female participants from WiS, summer schools etc. apply for mathematics at Oxford.	Gender balance in undergraduate admissions	Schools Liaison Officer.	This is a long term target; significant advances might not be made within the next 3 years.	
	1.2	Every open day has had at least one female faculty member speaking for many years.	Continue to make sure every open day has at least one female faculty member speaking.	Good female representation at open days.		Schools Liaison Officer.	Ongoing.	
Proportionally fewer female undergraduates continue to fourth year.	**1.3**	In each year since 2005 the lecturers for the compulsory 1st year mathematics courses have included between 3 and 6 women, in addition to plenty of female lecturers for the later years.	Ensure that there are at least 3 female lecturers to the first year UG and to the second year UG each year.	Strong female presence amongst lecturers for UGs.	Gender balance in 4th year of undergraduate course.	Director of UG Studies.	Ongoing; gender balance among the 4th year UG is likely to take a long time to achieve.	
	1.4	A third year student survey was conducted in 2012. Results were analysed and reported.	Continue to analyse the results of the third year student survey; repeat survey and monitor in the future, especially as higher fees work through the system.	GPSG provided with clearer picture why fewer women stay for 4th year.		Director of UG Studies.	Ongoing.	
	1.5		Give more information to 3rd year UG students about the 4th year.	3rd year UG better informed.		Director of UG Studies.	HT 2013, repeat annually.	High
Historically there were clear differences by gender in the degrees awarded at BA and MMath level. Recently the picture is more mixed; this issue needs monitoring.	**1.6**	OUSU Finals Forums have run since 1999 with the aim to close gender gaps and build confidence.	Continue to run a "Finals Forum" annually giving UGs advice on exam technique, stress during exam period etc.	Gender balance in final exam results.	Gender balance in final exam results and increased number of female applicants to PGT & PGR.	Director of UG Studies.	TT 2013, repeat annually.	
Female:male ratio for postgraduates on taught courses is lower than the national average.	**1.7**	One of the speakers at the annual open day for prospective graduate students (PGT and PGR) has always been a female professor.	Continue to have a female professor as one of the speakers at the annual open day for prospective graduate students (PGT and PGR).	Increased number of female applicants for PGT programmes.	Gender balance in PGT admissions.	Director of Graduate Studies.	Ongoing.	
Female:male ratio for postgraduates on research degrees is lower than for UG.	**1.8**	A graduate student survey was conducted in AY2012/13. Results were reported to the GPSG, and onwards to departmental committees.	Continue and improve regular survey of maths graduate students and monitor results; monitor results of OUSU maths graduate student focus groups.	GPSG provided with clearer picture of issues that female PGT & PGR think should be addressed.	More female PGT & PGR completing their degrees and remaining in mathematics.	Director of Graduate Studies.	HT 2013, repeat annually.	High
	1.9	"10 things I wish I had known before my Maths DPhil" and "10 things I wish I had known before writing my thesis" were put on the Good Practice webpages.	Add more tips from PGR students for PGR students in attractive format on website (and see 6 below).	Useful and attractive documents on website.		Athena SWAN Facilitator.	Ongoing.	Low
Ratio of course applications to offers and acceptances by gender: men have a greater success rate especially for UG.	**1.10**	Collaboration with UKMT established and funding secured for first summer schools for girls in Oxford in 2013 and 2014.	Collaborate with UKMT and others to increase the pool of mathematically able and enthusiastic secondary school girls. In particular introduce summer schools for girls aged 15/16 in Oxford in collaboration with UKMT, similar to current UKMT mixed gender summer schools.	Annual summer school for girls established. Funding secured beyond 2014.	Larger pool of mathematically able female UG applicants in maths and sciences at Oxford and elsewhere.	GPSG Chair, HoD and Schools Liaison Officer.	First summer school in August 2013, then annual event. Increase of pool as long term target.	High
	1.11		Monitor UG gender ratios at Imperial after they start to use MAT for admissions.	Evidence obtained of effect (if any) of MAT on UG admissions gender balance.	Better understanding of how to improve success rate for girls at UG admissions.	GPSG Chair and Schools Liaison Officer.	Imperial will use MAT for the first time in AY 2013/14	Medium

What issues have been identified through data gathering and consultation?	Actions addressing these issues	What actions have been taken already by March 2013?	What further actions are planned from March 2013 and for the next three years?	What will success look like initially (within the next three years)?	What will success look like longer term?	People responsible for taking actions / communicating them to staff	Targets and timelines	Priority
2. Staff (see also 6. Website)								
GPSG needs to regularly collate all available data, analyse and monitor from a gender perspecitive and report to departmental committees. Regular staff surveys to be held and analysed.	**2.1**	Staff data has been monitored by gender by the university for many years. The results relevant to the MI were collected and analysed and presented to the GPSG in 2011 and 2012. A departmental staff survey was conducted in 2012.	Find the best sources of staff data and introduce a central data collection point for the MI, taking account of anomalies such as staff appointed jointly to two departments, census dates etc. Set up a monitoring and reporting system. Repeat staff survey every three years and monitor results.	Regular data analysis and surveys.	Regular data collection and surveys are held and analysed. Results are reported to departmental committees, actions are proposed and monitored.	HAF and GPSG Coordinator.	Ongoing.	
Information from leavers needs to be collected in a timely way by the MI and passed on to GPSG for analysis.	**2.2**	GPSG has obtained some information on leavers from university sources.	Introduce online exit interviews to obtain better information.	Records of exit interviews.	Further actions proposed and monitored, based on better information.	HAF and Personnel Administrator.	Introduce in TT 2013, then run ongoing.	High
Supporting and advancing women's careers								
3. Key career transition points and career development								
Too few applications from women, too few women at all levels. The early transition points are particularly problematic for applications.	**3.1**	Appointment committees always contain at least one woman and at least one man (including for postdoctoral positions).	Continue to have at least one woman and at least one man on every appointment committee (including for postdoc positions).	Appointment panels well aware of gender issues.	Good Practice established in staff recruitment.	Personnel Administrator.	Ongoing.	
	3.2	All staff chairing recruitment panels have to attend well established training courses offered by the university. Additional recruitment and selection briefings are also offered by the department for anyone involved in recruitment.	Continue to offer regular briefings for anyone who is involved in recruitment and selection as a panel member in addition to mandatory university training for selection panel chairs. Monitor take up. Make sure that chairs/members of appointment panels are aware that lack of confidence may prevent women from applying for positions unless they have been approached directly.	Recruitment and selection training offered by the university and the department for anyone involved.	Good Practice established in staff recruitment. Take up monitored.	Personnel Administrator.	Ongoing.	High
	3.3	Further particulars for jobs have been modified to include more about maternity and adoption leave, childcare and other support.	Continue to monitor further particulars for gender issues. Put description of appointment processes on webpages. Circulate all appointments to EWM emailing list.	Increased numbers of female applicants at all levels.	Gender balance in applications at all levels.	Personnel Administrator.	Ongoing.	High
More support is needed for postdocs and young researchers.	**3.4**	Two careers events were successfully held in February 2012 and January 2013.	Continue and develop careers events for finishing PGR students and postdocs with a forum on research careers in academia, industry and government funded research establishments, including female speakers.	Increased number of women going on to research careers.	More female academic mathematicians.	Research Liaison Officer.	HT 2013, repeat annually.	High
	3.5	In 2013 the department was able to offer 8 new funded positions : 4 Hooke and 4 Titchmarch research fellowships. 25% of the appointed researchers were female.	Continue to explore funding options for graduate students, postdocs & research fellows and make them attractive for female mathematicians. Adapt LMS conference grant application question on women/young researchers to applications for internal funding to support research meetings.	More funded positions available.	Increased number of female graduate students on funded places; increased number of female mathematicians in research positions.	HoD and HAF.	This is a long term target, significant advances might not be made within the next 3 years.	High
Recently the proportions of eligible women applying for and being awarded Recognition of Distinction have been higher than men, but support is needed for men and women in this process.	**3.6**		Introduce additional support for recognition of distinction exercises.	More applications for promotion from women, and higher success rate.	More female professors.	HoD and GPSG Chair.	Before next RoD exercise in 2014.	High
Need for improved induction process for postdocs and academic staff.	**3.7**	A Good Practice page for staff has been added to the website (see 6) with links to the Learning Institute's online induction course and 'Welcome to Oxford' events for new researchers.	Improve induction procedures for staff, especially for postdocs; update departmental handbook and make it available on website. Introduce "check-points" and monitor progress.	Sufficient support provided for researchers at the start of their career.		HAF and Personnel Administrator.	Ongoing.	High

What issues have been identified through data gathering and consultation?	Actions addressing these issues	What actions have been taken already by March 2013?	What further actions are planned from March 2013 and for the next three years?	What will success look like initially (within the next three years)?	What will success look like longer term?	People responsible for taking actions / communicating them to staff	Targets and timelines	Priority
Training and development programmes especially for women should be further encouraged.	**3.8**	Links to Springboard, Ad Feminam, OxFEST, Careers Service have been added to Good Practice pages on website.	Continue promoting training and support opportunities that are especially offered to women.	More women taking up available opportunities, and encouraging others to do so.	More women in leadership roles in the department.	Athena SWAN Facilitator.	Ongoing.	
Support for female students could be further improved.	**3.9**	A lunch event for female graduate students and postdocs was held in November 2012 and optional female mentoring was offered.	Continue to monitor and develop mentoring of female PGT and PGR students by senior female mathematicians.	Prevent female graduate students from feeling isolated in the department.		Profs Helen Byrne and Frances Kirwan.	Annual lunch event, establish female mentoring over the next 3 years.	High
	3.10	Emails about LMS WiM Day 2013 with offer to pay for travel for female students/postdocs circulated widely. The information was also added to the Good Practice web pages.	Continue encouraging female PGR, PGT and final year UG students (and postdocs) to attend the LMS Women in Maths Days and contribute talks/posters; offer to pay for their travel.	Circular about LMS WiM Days with offer to pay for travel.	More women attending LMS WiM Days each year.	GPSG Coordinator.	HT 2013, repeat annually.	
	3.11		Help setting up a Women in Maths Society similar to the recently established Emmy Noether Society for female undergraduates studying maths at Cambridge.	Student society for women with the aim of promoting women studying mathematical sciences.	More women encouraged to study mathematics beyond UG level, and a good network provided for female UG students.	Athena SWAN Facilitator.	AY 2013-14.	
4. Organisation and culture								
All appointment committees (even for postdocs) must include at least one woman and at least one man, and the aim is for good female representation on other committees, especially influential ones, but this can easily lead to overburdening women.	**4.1**		Put brief description of appointment process on Good Practice webpage with statement that every appointment committee includes both genders.	Female applicants feel comfortable about applying.	More female applicants at all levels.	HoD and GPSG Chair.	HT 2013.	
	4.2		HoD continue to strive for a balance between gender equality and overload.	Women represented on influential committees without overload.	More women in leadership roles in the department.	HoD.	Ongoing.	
Current lack of efficient source of information about workload distribution.	**4.3**		Set up database with who does what in the department including membership of committees.	Database in operation.	Fair and transparent workload allocation.	HoD and HAF.	AY 2013-14.	High
Difficulty of timing departmental meetings and social gatherings to suit all.	**4.4**	Departmental faculty meetings have been moved from 5pm to 4pm. Some research seminars have moved from 5pm to earlier slots. Research groups have been asked to consider caring responsibilities when planning seminar times in the new building.	Monitor seminar and meeting times after the move to the new building.	More departmental members with caring responsibilities able to attend meetings and seminars.		HoD and HAF.	Ongoing.	
	4.5		Make the minutes of departmental faculty meetings available much sooner to inform those unable to attend, not just before the next meeting.	Minutes available earlier.	Information shared timely.	HoD and HAF.	HT 2013.	High
Even though the departmental culture is generally described as very friendly and inclusive it could be made explicitly more friendly to women.	**4.6**		Design posters of female mathematicians and display them in the teaching & social area in the new MI building.	Attractive environment presenting female mathematicians as role models in the new MI to UG/PGT/PGR students, visitors and potential applicants.		Athena SWAN Facilitator and GPSG Media Adviser.	MT 2013.	High
	4.7	"Mathematrix", an informal weekly lunch meeting, has been organised by Dr Lillian Pierce and all female members of the department are invited to attend. It is advertised on the Good Practice webpages.	Continue running "Mathematrix" lunch meetings and encourage women to attend.	Female members of the department get to know each other and are given a platform to discuss topics of interest.	Develop a strong network of Oxford female mathematicians.	Dr Lillian Pierce.	Ongoing.	
Women are needed to participate in outreach activities to attract female applicants, but care must be taken not to overburden them.	**4.8**		Make sure that outreach activities (as well as GPSG activities) are included in workload database.	Outreach activities recognised. Female staff involved in outreach activities but not overburdened.		HoD and Schools Liaison Officer.	AY 2013-14.	

What issues have been identified through data gathering and consultation?	Actions addressing these issues	What actions have been taken already by March 2013?	What further actions are planned from March 2013 and for the next three years?	What will success look like initially (within the next three years)?	What will success look like longer term?	People responsible for taking actions / communicating them to staff	Targets and timelines	Priority
5. Flexibility and managing career breaks								
Department should continue to encourage flexible working and should do so in a more transparent way.	**5.1**	Much flexibility has existed informally, especially for academic staff in permanent positions, less so for others.	Make it clear in the updated departmental handbook that the lecture timetable will normally take account of the needs of parents and carers.	Clarification in departmental handbook of available flexible working patterns.	Flexible working visibly integrated in departmental practice.	Personnel Administrator and Deputy Personnel Administrator.	HT 2013.	High
	5.2	LMS Grace Chisholm fellowships have been advertised and a Grace Chisholm fellow has been supported by the MI.	Continue to advertise the LMS Grace Chisholm fellowships, and encourage applications from eligible candidates.	Adverts circulated with LMS WiM Days.	Periodically have LMS Grace Chisholm Young fellows.	Research Facilitator and GPSG Coordinator.	Ongoing.	
Support on return from maternity and adoption leave and for childcare could be further improved.	**5.3**	A link to information for parents and carers was put on Good Practice webpage. An EPSRC-funded grant for women returners was advertised to (and taken up by) MI members.	Improve links with university and college nurseries; explore sponsored places at nurseries.	Good information about childcare available.	Easy access to childcare for departmental members.	HAF.	AY 2012-13.	
	5.4	LMS scheme of supplementary childcare grants for conferences is advertised on Good Practice pages.	Support for childcare at conferences: continue to advertise LMS scheme and explore further funding options**.**	Good information about childcare support on conferences available.	More women with children are able to attend conferences.	Athena SWAN Facilitator and GPSG Coordinator.	HT 2013.	
6. Website and departmental handbook								
Website should be made more user-friendly and attractive, in particular to women. Good Practice web pages should aim to support and advance women's careers.	**6.1**	Good Practice/Athena SWAN webpages have been added to the MI website, including: a) the remit of GPSG, membership, chair, contact details; b) links to university support for parents and carers; c) information about support for female undergraduates, graduates, postdocs, academic staff; d) links including university material for women, events for women, Athena SWAN, LMS Women in Maths Day, Newton Institute WiM webpage, European Women in Mathematics, Association for Women in Mathematics etc.	Update and maintain all Good Practice pages as well as their links to other departmental web pages. Add a page on female mathematicians at Oxford to go with the history of the department.	Good Practice / Athena SWAN web pages offer not only useful information in particular for women, but also show our commitment to the underlying principles of Good Practice.	Good Practice/Athena SWAN-webpage with information and resources for women in particular will attract and support more female students and staff at all levels.	Athena SWAN Facilitator and GPSG Coordinator.	Good Practice web pages now exist but some elements are still work in progress. Maintenance ongoing.	
	6.2	The GPSG has tried to make the MI website more attractive to women in general and in particular to prospective female undergraduates. a) The LMS Good Practice Scheme supporter logo is on the MI homepage and clicking on it leads directly to the new Good Practice/Athena SWAN webpages which have been developed. b) More pictures of departmental members and in particular of women have been added to the website in general, and in particular to individual homepages and the departmental photoboard. c) Initials have been replaced with first names of departmental members in 'About us' to avoid hiding their gender.	Continue making the website and undergraduate and graduate prospectus more attractive to women in general and in particular to prospective female undergraduates.	Updated and more attractive website for current and prospective members of the department.	Up to date website with focus on being more attractive in particular to women will eventually lead to increased applications from women, for UG places and at all levels.	External Relations & Media Officer in conjunction with Schools Liaison Officer, Director of UG Studies, Director of Graduate Studies, Athena SWAN Facilitator and GPSG Coordinator.	Improve website in AY 2012-13. Maintenance ongoing.	
Departmental handbook needs to be updated and made more accessible.	**6.3**		Update the departmental handbook and make it easy to find on the website.	Updated and improved departmental handbook.	Good Practice integrated in departmental handbook and practice.	Personnel Administrator and Deputy Personnel Administrator.	Update in AY 2012-13. Maintenance ongoing.	High

What issues have been identified through data gathering and consultation?	Actions addressing these issues	What actions have been taken already by March 2013?	What further actions are planned from March 2013 and for the next three years?	What will success look like initially (within the next three years)?	What will success look like longer term?	People responsible for taking actions / communicating them to staff	Targets and timelines	Priority
7. New Mathematical Institute building								
Make sure the new MI will improve the working environment for all, especially for women.	**7.1**	Input from all departmental members on design of new building has been encouraged; in particular departmental members were encouraged to join working groups.		Input encouraged and working groups set up.	High acceptance of the new building by all departmental members.	HoD and Head of Physical Resources.	Complete.	
	7.2	GPSG has been involved in the planning process for the new building.	Make sure the new MI building has attractive areas for UG and PGT students to work/snack between lectures, with posters of female mathematicians and a photoboard of members of the department with plenty of female mathematicians included, to give a welcoming atmosphere for women at open days etc.	New building with welcoming atmosphere for women.	Best possible working environment and community space in purpose-built new MI.	Head of Physical Resources and GPSG media advisor.	MT 2013.	High
	7.3		Incorporate suitable common areas, kitchen facilities, toilets, baby-changing facilities, first aid room with space for breastfeeding and expressing milk in new MI.	New MI with appropriate facilities.	Attractive working environment for women.	Head of Physical Resources.	MT 2013.	High
8. Athena SWAN award and action plan								
Action plan needs to be monitored and embedded in departmental practice.	**8.1**	Action plan first developed in HT 2012; updated each term and carefully revised for Athena SWAN application in April 2013.	Improve and develop monitoring and evaluating systems for Good Practice/Athena SWAN actions and activities. Regularly check and update the action plan.	Robust and up to date action plan.	Interactive action plan over full period of Athena SWAN award and onwards. Updated document for renewal application.	HoD, GPSG Chair, HAF and GPSG Coordinator.	Set up termly monitoring and reporting for the next three years and onwards.	High

Notes and Key to Action Plan:

Start Date	Dates	Code
Hilary (winter) term 2013	13 January - 9 March 2013	HT2013
Trinity (summer) term 2013	21 April - 15 June 2013	TT2013
Michaelmas (autumn) term 2013	13 October - 7 December 2013	MT2013
Academic Year 2013-2014	1 October 2013 - 30 September 2014	AY2013-14
Academic Year 2014-2015	1 October 2014 - 30 September 2015	AY2014-15
Academic Year 2015-2016	1 October 2015 - 30 September 2016	AY2015-16
Ongoing; to be continued		Ongoing
Already completed		Complete

Role	Current postholder	Comment
GPSG Chair	Frances Kirwan	
Head of Department	Sam Howison	
Director of Graduate Studies	Boris Zilber	
Director of Undergraduate Studies	Richard Earl	
Head of Administration and Finance	Elizabeth Ogden	
Research Facilitator	Christopher Voyce	
Research Liaison Officer	Rebecca Gower	
Schools Liaison Officer	Martin Griffiths	left Jan. 2013; post to be re-filled
Athena SWAN Facilitator	Ornella Cominetti	part-time, fixed-term contract
GPSG Coordinator	Lotti Ekert	
GPSG Media Adviser	Ruth Preston	
Head of Physical Resources	Keith Gillow	
Head of ICT	Keith Gillow	
Personnel Administrator	Brenda Willoughby	
Deputy Personnel Administrator	Dawn Bevan	currently on maternity leave

List of abbreviations:

AMS = American Mathematical Society
AWM = Association for Women in Mathematics
DGS = Director of Graduate Studies
COWI = Cambridge Oxford Warwick Imperial
FEAI = Further Education Access Initiative
FMSP = Further Mathematics Support Programme
GPSG = Good Practice Steering Group
HAF = Head of Administration and Finance
HoD = Head of Department
ICT = Information and Communications Technology
LMS = London Mathematical Society
MAT = Mathematics Admissions Test
MI = Mathematical Institute (new MI = new building under construction)
MPLS = Mathematical, Physical & Life Sciences Division
OUSU = Oxford University Student Union
OxFEST = Oxford Females in Engineering, Science and Technology
PGR = Postgraduate (research)
PGT = Postgraduate (taught course)
RoD = Recognition of Distinction
UG = Undergraduate
UKMT = UK Mathematics Trust
WiM = Women in Mathematics
WiS = Women in Science