Athena SWAN Bronze department award application

Name of university: University of Edinburgh

Department: School of Mathematics

Date of application: 25 April 2013

Date of university Bronze and/or Silver SWAN award: Bronze 2006; renewals 2009, 2012

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

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

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

Sections to be included

At the end of each section state the number of words used. Click here for additional guidance on completing the template.

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.

The letter of endorsement from the Head of School is enclosed.

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.*

Dr AA, Mrs BB, Dr CC, Prof DD, Dr EE, Ms FF, Ms GG, Dr HH, Prof II.

b) a*n 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 self-assessment team (SA) described above includes the core Athena SWAN working party (WP) that consists of AA, DD and EE, who are chiefly responsible for writing the application. The WP was created in February 2012 by the Head of School when we met and discussed the plans for the application for the Athena SWAN award. We used a QuickCAT survey to assess the culture, and current policies and practices within the School: it was opened to members of the School in late June and was completed by September 2012. The survey results informed our action plan. The WP has been meeting at least once a month to discuss the Athena SWAN strategy and data collection whilst working on the application. The SA team met in October and November 2012 and in March 2013 (and electronically in April 2013) to discuss the application with a focus on relevant action points. The application has been regularly discussed with the Head of School, at School Policy Advisory Committee (SPAC) and at School Forums (meetings of the whole School) since March 2012. Collection of information for the submission was greatly aided by JJ (School Administrator) and Dr KK (Athena SWAN Support Officer). In preparing our application, we considered the experiences of other Schools in our own University, mathematics departments in other universities, and reflected upon the findings presented in the LMS's recent report *Advancing Women in Mathematics*. Throughout the self-assessment process, AA and EE were members of our University's Athena SWAN

network, and thereby shared experiences and good practices with other Schools in our College.

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 self-assessment team will become Equality and Diversity Committee (EDC) and will monitor all issues relevant to equality and diversity including gender-related issues. The Committee will meet once a semester. It will monitor progress in achieving the action points and assess their impact, review relevant data and update the plan, as required. It will feed the information to SPAC where the EDC will be a standing item on the agenda, and to the School at School Forums. To assess the School's perception of our success in addressing gender equality issues as well as other issues raised at the self-assessment team meetings and by the survey, there will be a full discussion at the School Forum once a year, and a similar survey will be run in two years' time.

As an initial step towards the creation of a School EDC, a School *Equality and Diversity* website was launched in November 2012. This site contains links to the University Equality and Diversity website, a training module on Equality and Diversity and related news, both internal and external.

3. A picture of the department: maximum 2000 words

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

The School of Mathematics consists of 49 members of academic staff (19 professors/personal chairs, 8 Readers, 4 Senior Lecturers and 18 Lecturers), 15 postdocs and 75 PhD students. Three of the professors hold the title of an "Established chair" which are long-standing professorships at the University. There are eight broad research groups: Algebra, Analysis, Applied and Computational Mathematics, Mathematical Physics, Geometry and Topology, Operational Research, Probability and Statistics. The School of Mathematics is a part of the Maxwell Institute, a partnership with the School of Mathematics and the School of Applied Mathematics and Actuarial Sciences at Heriot-Watt University. The School is a partner in the Centre of Analysis and Nonlinear PDEs (CANPDE) and Numerical Algorithms and Intelligent Systems (NAIS), both funded by EPSRC and SFC; the former is held jointly with Heriot-Watt University, and the latter is held jointly with the School of Informatics at the University of Edinburgh, the Edinburgh Parallel Computing Centre and the Departments of Mathematics at Heriot-Watt and Strathclyde Universities. The School, together with the Schools from Heriot-Watt, owns the International Centre for Mathematical Sciences, whose main role is to fund and organise conferences and workshops in all areas of mathematics.
The School has single and joint undergraduate and taught post graduate degrees (Table 1). The School of Mathematics participates in Scottish Mathematical Sciences Training Centre (SMSTC) which provides high quality broad training in fundamental areas of mathematics and statistics for first year PhD students.

Degree	Number of years	Single or joint
BSc (Hon) in Applied Mathematics	4	Single
BSc (Hon) in Mathematics	4	Single
BSc (Hon) in Mathematics and Business Studies	4	Joint
BSc (Hon) in Mathematics and Music	4	Joint
BSc (Hon) in Mathematics and Physics	4	Joint
BSc (Hon) in Mathematics and Statistics	4	Single
BSc (Hon) in Mathematics with Management	4	Joint
MA (Hons) in Mathematics	4	Single
MA (Hons) in Mathematics (Pure Mathematics)	4	Single
MMath (Hons) in Mathematics	5	Single
MSc in Financial Mathematics (jointly with Heriot-Watt University)	1	Joint
MSc in Financial Modelling and Optimization	1	Single
MSc in Mathematics	1	Single
MSc in Operational Research	1	Single
MSc in Statistics and Operational Research	1	Single

Table 1. Undergraduate and taught postgraduate degrees, School of 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.*

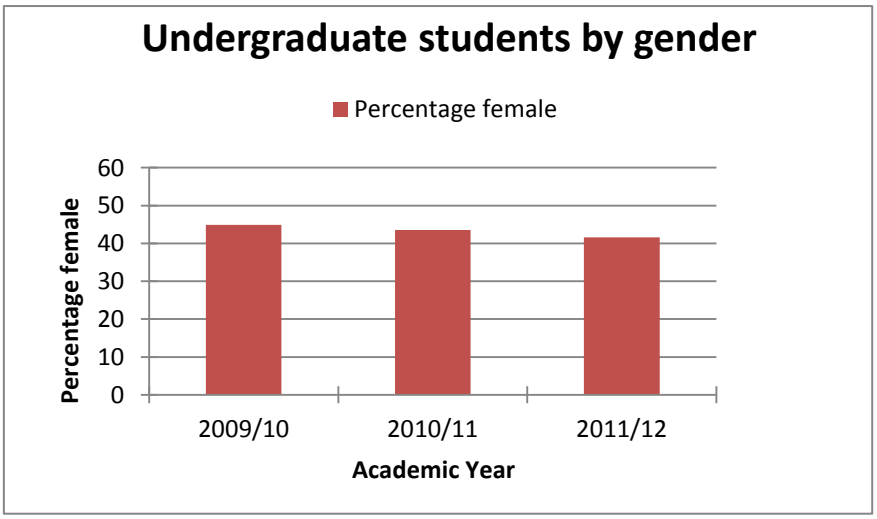
Student data

(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.*

	2009/2010		2010/2011	2011/2012
	F	**M**	**M (zero F)**	**M (zero F)**
Completed an Access Programme other than via LEAPS (Lothians Equal Access Programme for Schools) or SWAP (Scottish Wider Access Programme)		2		
Completed the LEAPS Summer School	1			
Received a LEAPS pre-application interview, but did not attend/complete LEAPS Summer School	3	10		
SWAP			3	2
Total:	**4**	**12**	**3**	**2**

The numbers are rather small, so it is difficult to comment on bias. We will be working on attracting more female participants during our publicity events (See Action Points 3.1-3.3).

(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.*



Number of students on undergraduate taught programmes, by gender:

2009/2010		2010/2011		2011/2012	
F	M	F	M	F	M
268	329	238	309	199	279

The proportion of female undergraduates in 2011/12 was 42% which is higher than the national average of 40% (HEIDI 2011/12) and the Russell Group average (39%). A possible current action that contributes to this is a relatively high proportion of female staff involved in recruitment and publicity events, higher than the current proportion of academic female staff. Over the last three years, there has been at least one female undergraduate recruitment officer, and in 2009-2011 there were two (out of four). The School runs master classes in mathematics, School Challenges and events in the Edinburgh Science Festival. Out of 8 master classes, the number of classes given by a female speaker was 2, 3, 2 in 2010, 2011 and 2012, respectively. All members of staff participate in School Challenges. In the last 3 years, the Edinburgh Science Festival events involved 2 female staff out of 2. The number of the undergraduate students (given in the table above) went down in the last 3 years due to change in the funding policy of the Scottish Government, including introduction of a cap on the number of UG students.

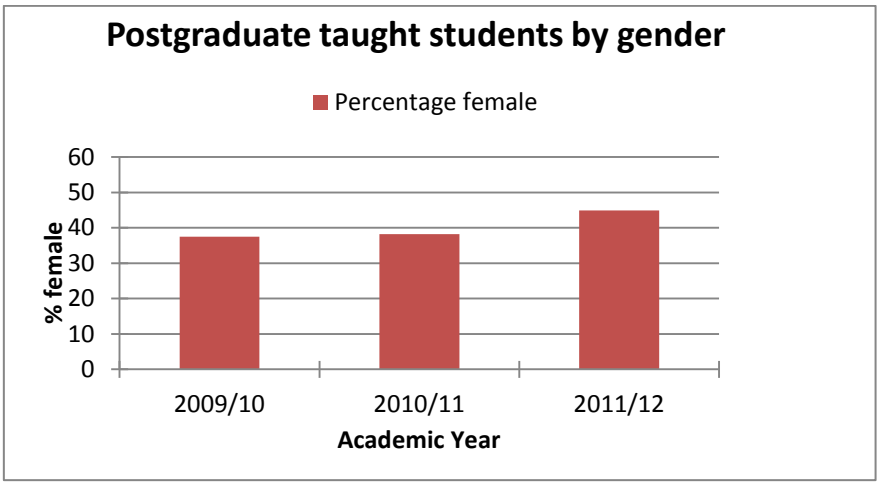
On some of our degree programmes, however, the proportion of female students is rather low. Notably, the proportion of female students following our MMath degree programme is less than the proportion of male students. Currently the numbers of female/male students on MMath programme are: 6/23 Year 1, 13/14 Year 2, 1/4 Year 3, 1/10 Year 4 and 2/5 Year 5. This programme is designed for students who consider doing a PhD in mathematics and involves more advanced mathematics than is taught in our BSc/MA degree programmes.

Actions:

3.1 The School will continue to run publicity and recruitment events involving both male and female members of staff, and to monitor the proportion of female undergraduates on our courses.
3.2 Survey our first-year undergraduate students to ask which factors influenced their decision to study here.
3.3 We will review our recruitment policies, particularly for the MMath programme, to identify issues that prevent female students from entering our degrees, during the application process as well as during the publicity events.
3.4 Continue to include pictures of both males and females in School information leaflets for prospective students and on the School's website.

(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.



Number of students on postgraduate taught degree programmes, by gender

2009/2010		2010/2011		2011/2012	
F	M	F	M	F	M
24	40	68	110	115	141

The proportion of female taught postgraduate students has risen from 37.5% in 2009/2010 and 38.2% in 2010/11 to 45% in 2011/12. The latest figures are higher than the current national average of 37.2% and the Russell Group average 37.7% in the last two years. New MSc degrees introduced in 2010-2011 (namely, MSc Mathematics, MSc in Statistics and Operational Research and MSc in Financial Mathematics and Operational Research) are mainly responsible for the higher overall number of students. The proportions of female students on these courses are relatively high; in order to ensure that they remain so, we propose the following action points.

Actions:

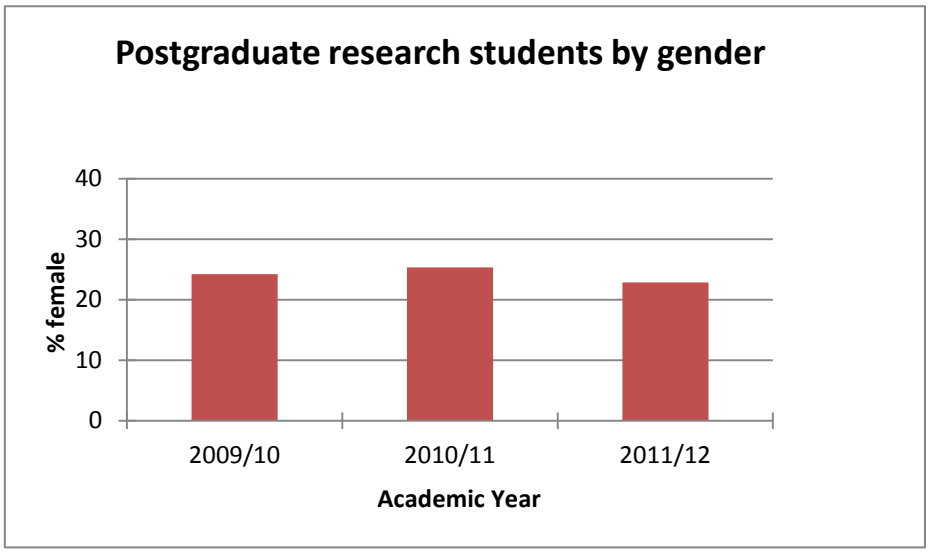
3.5 Continue to make sure that pictures of both males and females are included in School's MSc information leaflets for prospective students and on the MSc School's website.

3.6 Ensure that both genders are represented in the student membership of MSc Staff Student Liaison Committee.

3.7 Include positive quotes from previous MSc students on all MSc websites (as is done for our Operations Research MSc which has a good female/male student balance), and include a page describing our environment and the benefits of doing a MSc here.

(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.



Number of Postgraduate Research Students, by gender

2009/2010		2010/2011		2011/2012	
F	M	F	M	F	M
16	50	19	56	16	54

The proportion of female postgraduate research students has been consistently about 24%. The number of female postgraduate research students has also been consistent. This remains slightly lower than the current national average of 29.5% and the Russell Group average 28.2%.

Discussions with current female PhD students reveal that presence of other female PhD students in the research group was an important factor in their choice of the University, third after the quality of research group/advisor and availability of a scholarship. Our analysis shows that the lower percentage of female students is due to the lower number of female PhD applicants. We recognise this as a problem and are addressing this issue: see Action Points 3.8, 3.9 and 3.11-3.13.

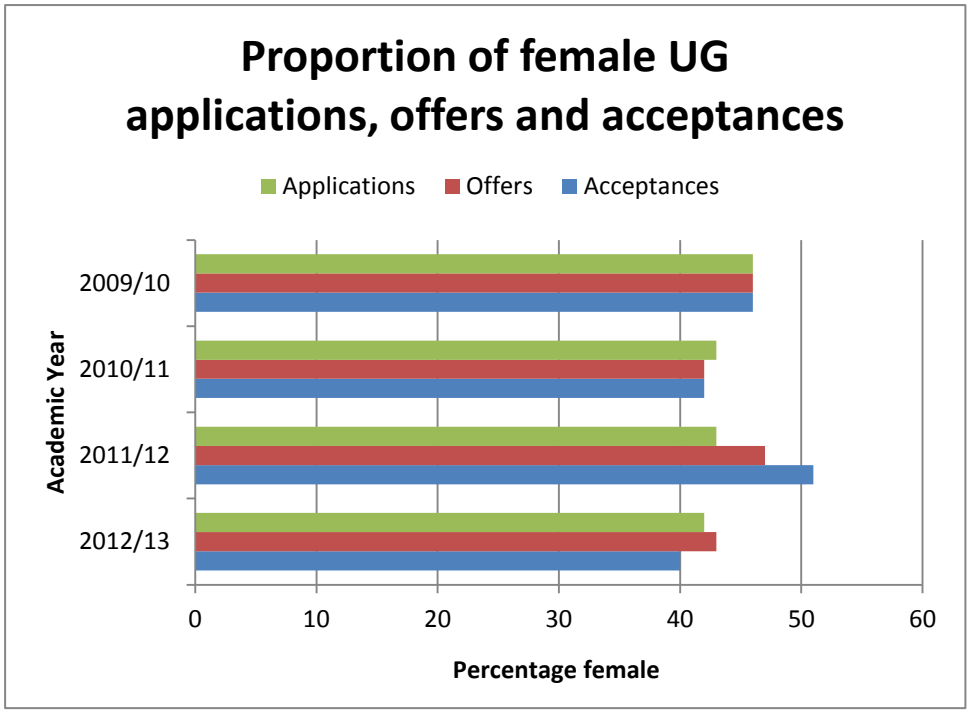
Actions:

3.8 During pre-application and post-application visits of prospective PhD students, we will encourage them to meet both female and male current PhD students.

3.9 We will ask existing PhD students to write to the PhD applicants (matching them by gender and other characteristics like nationality where possible) about doing PhD in Edinburgh and offering to

answer their questions informally. Such a scheme exists in the School of Informatics and has proved to be a success.

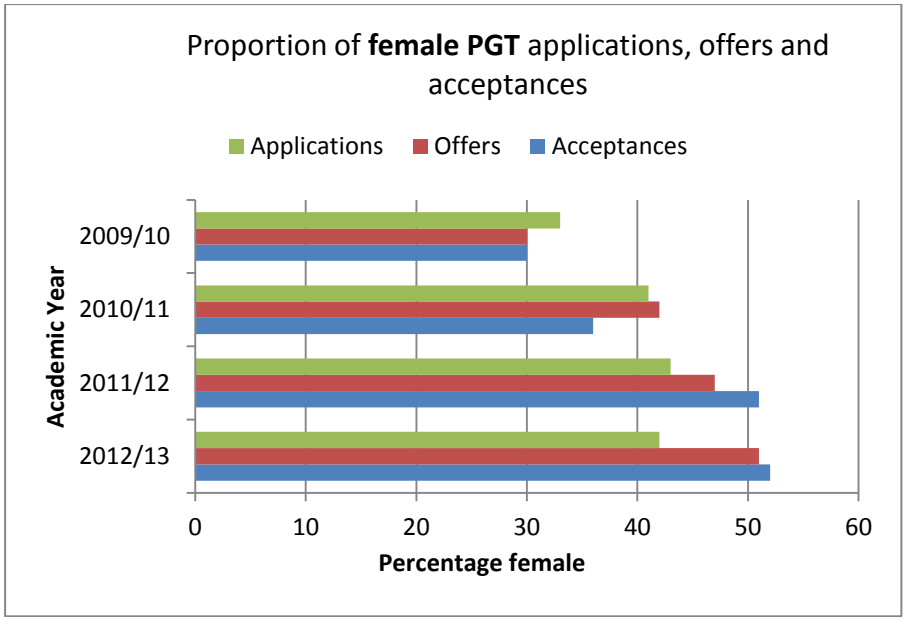
(v) **Ratio of course applications to offers and acceptances by gender for undergraduate, postgraduate taught and postgraduate research degrees –** *comment on the differences between male and female application and success rates and describe any initiatives taken to address any imbalance and their effect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



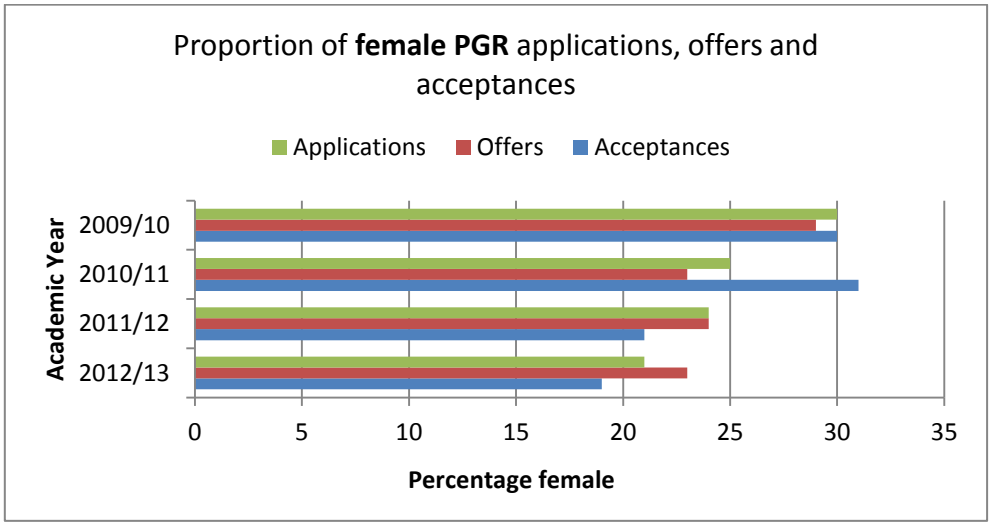
The proportion of offers and acceptances by female UG applicants is very similar to the proportion of female applicants. There was a slightly higher proportion of acceptances in 2011-2012. Overall, there appears to be consistency in the proportions of applications, offers and acceptances of female undergraduates. Decisions on offers to prospective undergraduate students are taken by the Admissions Office in the College of Science and Engineering. However, the Admissions Office liaises closely with our School.

Actions:

3.10 We will continue to ensure that we have females on our recruitment team, during visits by prospective undergraduate students and open days.
See also Action Point 3.2.



The proportions of offers and acceptances of females on taught postgraduate (MSc) degrees have been steadily increasing. The percentage of female applicants has been about the same (~42%) in the last 3 years. We shall continue working towards encouraging female applicants.



The proportion of applications from females for a PhD has been decreasing, in spite of the static number and proportion of female PhD students. On average, the percentage of offers does not differ from the percentage of applications and acceptances, so an important problem to be addressed is how to attract female applicants. Furthermore, it may be the case that female PhD students are taking longer to complete their studies than their male counterparts; this issue needs to be clarified.

We recognise the importance of delivering a pipeline of excellent female postgraduate research students into our discipline and are committed to supporting this. As an example of

our of our good practice in this regard, this year we ran a half day workshop together with STOR-i, a Doctoral Training Centre at Lancaster University, to encourage our own UG and PGT students to pursue a PhD. The following Action Points are aimed at improving and supporting this.

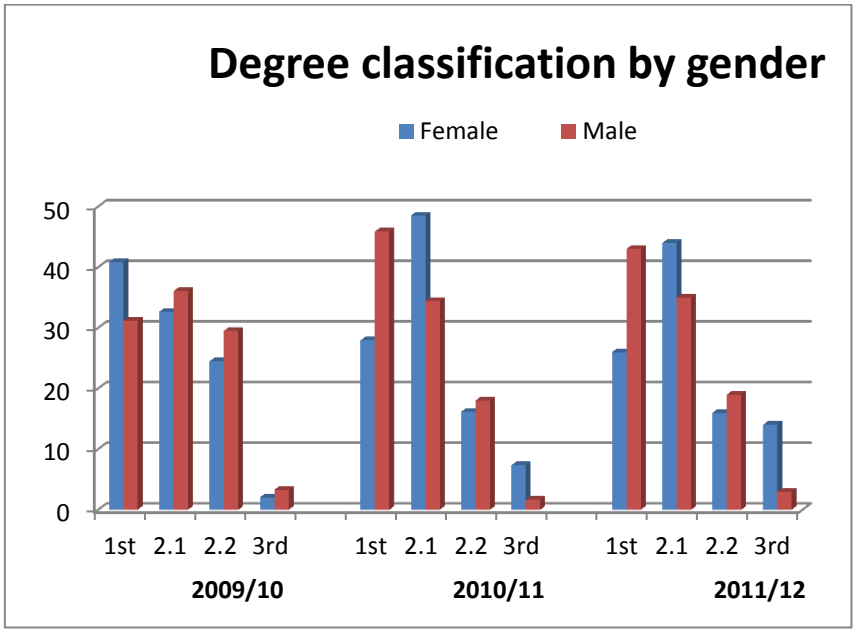
Actions:

3.11 We will continue to involve female as well as male PhD students in visits of prospective PhD students.

3.12 In order to guard against possible biasing, we will introduce a compulsory training against unconscious bias for those involved in PG admissions and for PG advisors.

3.13 Survey our first-year PhD students to ask which factors influenced their decision to study here

(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.*



The proportions of male and female students for each degree class are broadly comparable in 2009/10; in the last two years there was a higher percentage of females obtaining 2.1 and lower percentage of females obtaining 1st class degree. This has not been the case in the previous years. Among those doing BSc in Mathematics, the percentage of females getting 1st

or 2.1 class degree is slightly higher than the percentage of males (1st class: 35% females vs 33% males; 2.1 class: 43% females vs 39% males). The reason for this is not clear. This year we will monitor female students, particularly those who are predicted to achieve a 1st and 2.1 degree, by asking Personal Tutors to chat to female students informally to identify possible reasons for this imbalance. On some degrees, like BSc in Mathematics and Physics, BSc in Applied Mathematics and MMath, there are relatively few female students and a high number of students obtain 1st class degree which may be the reason of bias of the percentages. We will be working on attracting students to these programmes.

Actions:

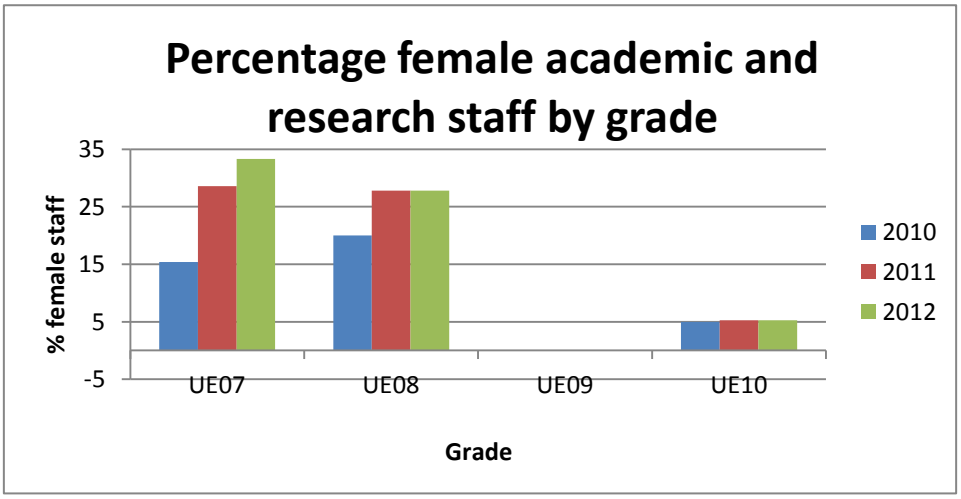
3.14 Degree classification will be monitored by gender and by degree.

3.15 Personal tutors will be asked to chat to their female students to identify possible challenges the students face to obtain a 1st class honours degree.

Staff data

General staff information: University-wide standard academic grades:
UE06=research assistant/associate
UE07= Postdoctoral research fellow
UE08=lecturer/research fellow
UE09=senior lecturer/reader/senior research fellow
UE10=professor/personal chair, or equivalent

(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*

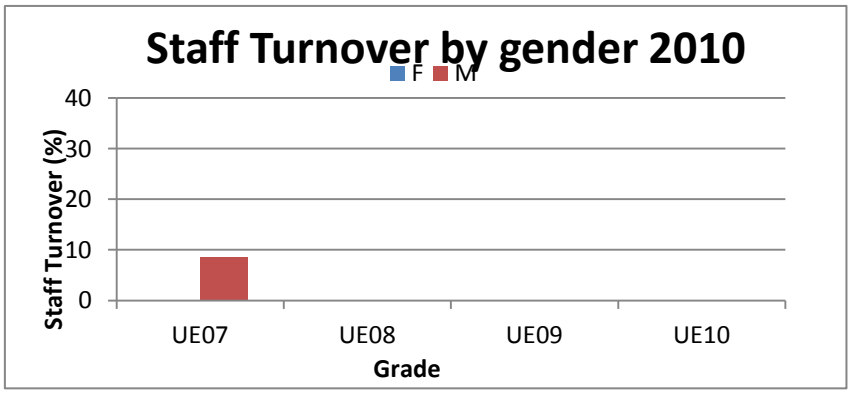


Number of staff, by grade and gender

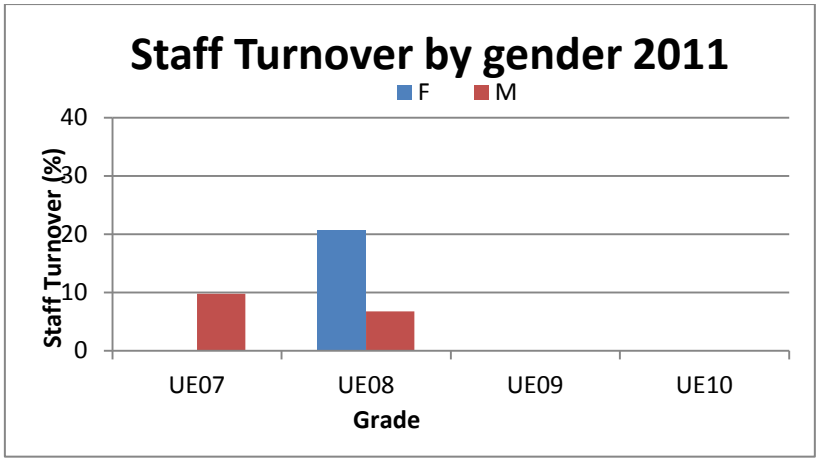
	2010		2011		2012	
Grade	M	F	M	F	M	F
UE06	2	0	0	0	0	0
UE07	11	2	10	4	10	5
UE08	16	4	13	5	13	5
UE09	10	0	11	0	12	0
UE10	19	1	18	1	18	1

The proportion of female academic and research staff has increased over the three-year period from 15% in 2010 to 33% in 2012 (grade UE07) and from 20% to 28% (grade UE08). The proportion of female members of staff above Grade U08 is very low. Among the total number of staff, 17% are females which is lower than the national average 23% but is slightly higher than the Russell group average (16.5%). We are committed to ensuring that our promotion procedures are fully transparent and to encouraging our staff to make themselves eligible for promotion.

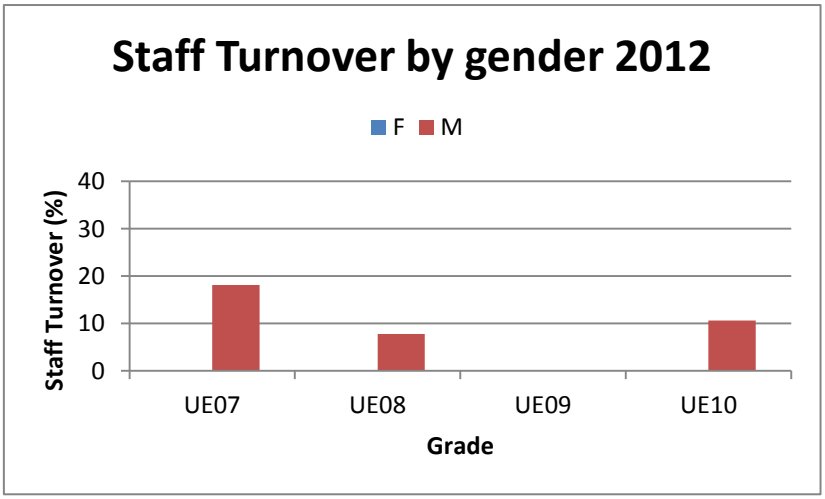
(viii) ***Turnover by grade and gender*** *– comment on any differences between men and women in turnover and say what is being done to address this. Where the number of staff leaving is small, comment on the reasons why particular individuals left.*



UE07 = 2M



UE07 = 1M; UE08 = 1F, 1M



There does not appear to be gender imbalance in turnover. The numbers are small, which makes interpretation difficult.

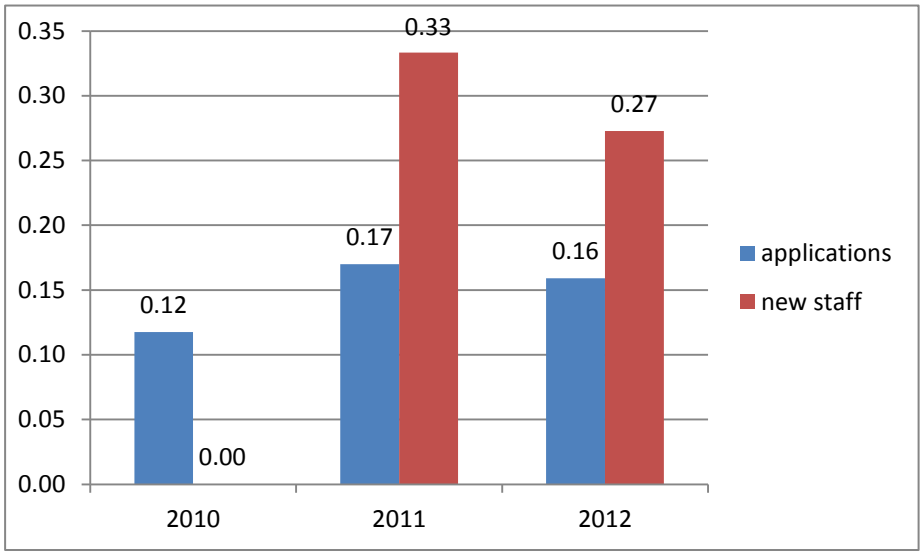
4. Supporting and advancing women's careers: maximum 5000 words

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.*

Below is the chart of percentage of females in applications and among new staff over grades UE07-UE10 (there were new members of staff on grade UE06 in 2010 who were named on research grants, so their positions were not advertised; the female percentage was 17%).



The overall percentage of females whose application was successful was almost twice as high as the number of applications in 2011 and 2012, but there were no successful female applications in 2010. Over the three years, the percentage of new female staff is higher than the percentage of female applications (21% and 16%, respectively).

2010	Number of Applications			Number of New Starts	
	Female	Male	Unknown	Female	Male
UE06	0	0	0	1	5
UE07	10	75	0	0	3
UE08	0	0	0	0	4
UE09	0	0	0	0	0
UE10	0	0	0	0	0

2011	Number of Applications			Number of New Starts	
	Female	Male	Unknown	Female	Male
UE06	0	0	0	0	0
UE07	63	274	10	1	4
UE08	42	223	6	1	0
UE09	0	0	0	0	0
UE10	0	0	0	0	0
2012	Number of Applications			Number of New Starts	
	Female	Male	Unknown	Female	Male
UE06	0	0	0	0	0
UE07	24	110	4	2	5
UE08	0	0	0	1	2
UE09	4	34	0	0	1
UE10	0	0	0	0	0

The percentage of successful applications among males and females was 0 for grades UE07 and above in 2010 but in 2011 and 2012 it was around 30% of females among the new starts. The percentage of female applicants still remains low (12% in 2010, 18% in 2011 and 16% in 2012), and we propose actions to address this issue (see Action Point 4.10).

(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.*

	2010-2011		2011-2012		2012-2013	
	Applications	Successful	Applications	Successful	Applications	Successful
	F/M	F/M	F/M	F/M	F/M	F/M
UE07	0/0	0/0	0/0	0/0	0/0	0/0
UE08	0/0	0/0	0/0	0/0	0/0	0/0
UE09	0/3	0/2	0/2	0/1	1/1	1/1
UE10	0/0	0/0	0/2	0/1	0/0	0/0

Only one female applied for a promotion in the 2012-2013 which was successful. The figures are small, so it is difficult to assess whether there is any bias.

One area of concern identified in our survey was that the promotion policy was not clear, and existing job allocation was not always sufficient for staff to show the management and leadership qualities necessary for promotion. Hence important actions are to ensure that the criteria that the University has for promotion are easily available, and that career development is taken into account during job allocation. A significant step towards addressing the first issue was taken in March 2013 when the Head of School held a meeting (open to all staff) explaining the promotion process and giving advice on applying for it.

Another concern raised in the survey was the need of fair reward for the full range of skills and experience required in academia including pastoral work, outreach work, teaching and administration. A step towards addressing this issue has recently been taken by a change in the way the annual review is performed. From 2012-2013, annual reviews include formal discussion of teaching and all administrative duties as well as of research; these reviews are conducted by the three established chairs in the School of Mathematics, together with the Head of School. A high proportion of those who responded to our survey did think that our annual review process was constructively helpful.

Proposed actions on active mentoring junior academic staff towards a promotion:

While we expect active mentoring to benefit all staff, we recognise that the following Action Points may be particularly valuable to our female staff.

4.1 Clear description of the process and criteria for promotion on the School's website.

4.2 For each junior staff member, assign a mentor who is a senior academic and not Head of Research Group or Head of School , to provide regular advice and feedback on research matters (research funding, papers, etc). This is already being partially implemented, as a mentor is assigned to a new member of staff for the first 5 years. Currently, the mentor is not necessarily a senior member of staff.

4.3 Discussion with a senior member of staff the steps necessary for promotion. This is already happening, both during an Annual Review and during a meeting with the Head of School.

4.4 Head of School ensures job allocation is appropriate for each staff member as regards meeting criteria for promotion. The administrative and teaching work load for each staff member should be reviewed each year as part of the Annual Review process – this is already happening this year.

4.5 Meetings with a senior female academic for female staff to discuss female-specific academic matters, perhaps across the College due to low number of senior females in the School. This can be done also if there is a request for a senior female mentor.

4.6 Workshop/briefing events for those considering promotion, including presentations on female-specific issues.

4.7 Advertise career coaching workshops run by Scottish Resource Centre for Women in SET, and provide funding for those attending.

See also Action Point 4.18.

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*

Our recruitment processes, including short listing, selection processes and criteria, comply with our University's equal opportunities policies. Currently, 11 members of staff have completed at least one form of E&D training. In 2012, the interview panels had 2 or 3 members that had done the E&D training (recruitment panels had between 4 and 6 School members), hence the lowest rate of those who had the E&D training recently was 33%. The current University policy is that at least one member of the

recruitment panel attends the workshop. In addition to this, we propose the following action points.

Actions:

4.8 Make sure that all members of the recruitment panel and annual reviewers attend University-run workshop on equality and diversity and complete the e-diversity online training module.

4.9 While data for our recent recruitment processes showed no obvious bias, as a guard against possible bias we shall run unconscious bias training (as provided by Scottish Resource Centre for Women in SET) for all members of our recruitment panels

4.10 In addition to the University Equal Opportunity statement, jobs adverts are to typically include: (A) that the School supports LMS (London Mathematical Society) Good Practice scheme (i.e., the School is committed to addressing the gender imbalance); (B) information about School's flexible working policy; (C) the phrase `we particularly encourage suitably qualified female applicants'; and (D) the Athena SWAN logo if our application is successful.

(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.*

The College of Science and Engineering runs an annual *Women in Science and Engineering* workshop which our staff are encouraged to attend. International workshops held at ICMS that everyone in the School is encouraged to attend provide a source of networking opportunities. In 2009-2010 there were informal "women in mathematics" meetings that involved female academic and research staff and PhD students that are taking place again from autumn 2012. However, currently there are no regular School events aimed specifically to support women at key career transition points.

Actions:

4.11 Workshops for early career researchers (PhD and postdocs) on how to get on the academic career ladder from senior academics (School, College and University-run).

4.12 Research Administrator to run workshops for early career researchers (i.e., PhD students and postdocs) on research funding.

4.13 Formal advice about future academic career during the Annual Review for postdocs and during biannual meetings with the second supervisor for PhD students.

4.14 Propose College-wide Early Career Research Network, which will provide a forum for networking and sharing experiences.

4.15 Promote informal discussions about academic careers between senior members of staff and post docs/PhD students, via coffee and cake sessions.

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?*

Each member of the School has an Annual Review with the Head of School or one of the three Established Chairs. There is a standard form to be completed which asks for information on and reflection about research, teaching, administration and outreach. The Review includes input on research from the relevant Head of Research Group, on teaching from the Director of Teaching, and on administration from the Head of School. The final section of the form focuses on future plans and this typically provides an early opportunity for an informed discussion about career development. Outcomes of the Review may include the identification of training opportunities within the university, or a discussion of the possibility of promotion and the steps to be taken for that. The reviewer provides written comments which are agreed with the reviewee, and this is then sent to the Head of School.

Such a systematic approach to Annual Reviews is new to the School, having been introduced only in the last year. In the past, Reviews were typically only used as precursors to applications for promotion. Anecdotally, regular Reviews are well-received, particularly by more junior members of the School who value the chance to reflect on their career with a more experienced mathematician and also to understand better the opportunities and expectations the University may have regarding various types of promotion.

Once a year the University issues a call for either academic promotion, salary increments, or one-off lump sum payments, with a predetermined number of possible awards available for each College. The School asks the Established Chairs to put forward suitable candidates but also alerts all members of the School that they can nominate themselves to the Head of School if they wish. Awards are allocated competitively at the College level at a meeting which the Head of School attends, so all proposed cases are discussed in detail beforehand by the Established Chairs and Head of School. The intention of this discussion is either to formulate the best case for a nominee or to decide not to put forward someone. In the second case constructive feedback is

provided to help a strong future case to be made based on the University's criteria for such awards.

Action.

4.16 Ensure that Annual Reviewers have regular University training on conducting Annual Reviews and that all have undergone training about Unconscious Bias (as provided by Scottish Resource Centre for Women in SET).

(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?*

Each new member of the School has a mentor for their first two years whose role is to provide support, advice and information on all aspects of university life; research mentoring is also undertaken by the relevant Head of Research Group. New members receive reduced teaching and administration for at least one year when they begin working. Each member of the School is expected to oversee the choice of courses of a number of undergraduate students; this is supplemented by a Senior Personal Tutor to whom all members of staff can address questions; there is also a Student Learning Adviser who offers advice on pastoral issues arising in this role.

The University offers a number of training courses available to all members of staff at all levels. These include discussions of good practice in administration and teaching, which in turn provide opportunities for staff to network with members of other Schools in the University. Within the College of Science and Engineering there are biannual courses on supervising research students, either for experienced supervisors or for new supervisors. The School encourages staff to take advantage of these courses, as appropriate. Within the School all members of staff take part in Peer Observation of Teaching, both as observer and observed.

An online training module on Workplace Equality and Diversity is available to all staff in the University. Staff involved in hiring decisions are expected to have completed appropriate Equality and Diversity training.

The School follows the University's policy on maternity and paternity leave. In particular this enables parents to choose the amount of work they wish to undertake when they return from leave, and also supports reintegration into the research environment with an appropriately chosen administration load. Although no member of the School has yet chosen to take maternity leave, we are confident that through following the University's policy and drawing on the experience of good practice in other Schools, we will provide good quality resources and opportunities.

Actions.

4.17 At present, the School of Mathematics does not have a systematic method for providing information concerning mentoring new members of staff, either for the new staff or for the mentors. Provide online support and information for mentoring of new staff, and links to relevant information concerning good professional practice for academics offered by the University. Allow for regular updating of this information by seeking feedback from new staff and mentors.

4.18 The effectiveness of the mentoring scheme is to be discussed at Annual Review, including the option of requesting a new mentor.

(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.*

All PhD students have a 2nd supervisor part of whose role is to oversee the holistic development of the student's research career, including discussion of conference attendance, speaking at workshops and giving research seminars, networking, and application for post-doctoral positions. Each student is expected to meet their 2nd supervisor at least twice per year. The role of 2nd supervisor is acknowledged by the School through an assignment of a percentage of the credit that the 1st supervisor receives. At present, however, the School does not offer any specially designated support for female students to address gender-specific issues arising in the transition to a sustainable academic career.

Action.

4.19 We will appoint a Postdoctoral Mentor to aid the development of young researchers into career academics. This role may include overseeing that all researchers take full advantage of networking opportunities within and outwith the University, they are advised on achieving independence as researchers, that they receive training and support on applying for permanent positions, academic or otherwise. While much of this role will not be gender-specific, particular care will be made to address such issues as they appear.

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.*

Male and female representation on School of Mathematics committees:

	2010/11		2011/12		2012/13	
	Male	Female	Male	Female	Male	Female
School Policy and Advisory Committee	10	0	10	0	10	0
School Teaching Committee	6	0	7	0	5	0
School PG Studies Committee	6	0	6	0	6	0
School IT Committee	7	0	6	1	3	1
School Publicity and Recruitment Committee	6	2	6	3		
Publicity and Outreach Committee					1	2
Recruitment Committee					5	1
Pre-honours Programme Committee	7	0	7	0	7	0
Honours Programme Committee	7	0	7	0	8	0
Non-Specialist Programme Committee	8	0	8	0		
PGT Programme Committee	5	0	4	1	5	0
School Committees	**42**	**2**	**42**	**4**	**37**	**4**

Over the past three years, the proportion of female staff on committees has risen slightly, from 2/42 in 2010/11 to 4/37 in 2012/13. This trend reflects the generally increasing proportion of female staff over the same period. The proportion of female staff on committees is slightly lower than the overall proportion of female staff; e.g., in 2011/12 the percentage of female staff (UE06-UE10) was 10.8% whereas the percentage of females on committees for this year was 9.5%. A possible explanation for this is that some of our female staff have recently been recruited and our policy is to give new members of staff relatively low administrative and teaching workloads.

School of Mathematics academic staff sitting on College committees:

	2010/11		2011/12		2012/13	
	Male	Female	Male	Female	Male	Female
College IT Committee	1	0	1	0	1	0
College E&D Committee	1	0	0	1	0	1
College Learning & Teaching Committee	1	0	1	0	1	0
College Library Committee	0	1	1	0	1	0
College QA Committee	1	0	1	0	1	0
College Research Committee	1	0	1	0	1	0
College Research Training Committee	1	0	1	0	1	0
College Strategy and Management Committee	1	0	1	0	1	0
Total School (academic) Members of College Committes	**7**	1	**7**	1	**7**	1

The proportion of our female academic staff sitting on College committees (namely, 14% for the past three years) is rather larger than the proportion of female staff in our School, but the numbers involved here are small (i.e., only one female academic staff member) which makes it difficult to draw meaningful conclusions. Also, these positions are generally held by

conveners of corresponding School committees and therefore reflect the gender of our School conveners.

Number of academic staff sitting on interview panels for academic jobs in the School of Mathematics:

	2010/11		2011/12		2012/13	
	Male	Female	Male	Female	Male	Female
Postdoc (1) (6 posts)					14	0
Postdoc (2)					2	1
Postdoc (3)					2	0
Postdoc (4)					2	1
Academic (1)					3	1
Academic (2)					4	1
Academic (3)					5	1
Total					32	5

The proportion of female academic staff sitting on interview panels for academic jobs in the School of Mathematics for 2012/13 is 15.6% (to date), which is higher than the proportion of female academic staff in our School. While this may help with our policy of attempting to recruit more female staff, there is a potential danger that our existing female staff may be overburdened with requests to sit on interview panels. Reliable data is not available for our interview panels for earlier years.

Staff are invited to become School and College committee members, and interview panel members, by our Head of School, who aims to achieve a membership that reflects the diversity of the School (in terms of experience, expertise, gender, etc.). He also aims to provide committee and interview experience to staff according to their preferences and where it may be beneficial to their career progression. And he aims to achieve a flow of fresh ideas by rotating the membership of longstanding committees.

Presently, all of our School committees are chaired by men. This is partly because our committee chairs are generally senior staff members and we have only one female member of staff at grade UE09 or UE10. Furthermore, our solitary female professor has been on Research Council-funded research leave for much of the time that she has been a staff member in our School and has accordingly not been available to chair a committee.

Actions.

4.20 Data on the proportion of female staff on School and College committees, and on interview panels, is to be monitored by our Equality and Diversity Committee (to be created, in part as a continuation of our Athena SWAN self-assessment team) and reported to our Head of School each year, thereby allowing him to take this data into consideration when reviewing committee memberships. This data will also be displayed on our internal School website, on our Equality and Diversity Committee webpage.

4.21 Female staff from other Schools in our College (which typically have a greater proportion of female staff than we do) will be invited to sit on our interview panels, if

this would prevent our own female staff from being overburdened with interview panel work.

(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.*

Female/male academic and research staff according to contract type:

Year	Female					Male				
	Permanent		Fixed-term		Total	Permanent		Fixed-term		Total
	N	%	N	%	N	N	%	N	%	N
2010	6	85.7	1	14.3	7	41	73.2	15	26.8	56
2011	7	70	3	30	10	39	75	13	25	52
2012	7	63.6	4	36.4	11	42	79.2	11	20.3	53

The numbers of female and male academic and research staff on permanent contracts have both increased by 1 over the past three years. In the same period the number of female staff on fixed-term contracts has increased from 1 to 4 whereas the number of male staff on such contracts has decreased from 15 to 11. It is important to bear in mind that all our fixed-term staff are postdoctoral researchers. Measures that have recently been put in place to help fixed-term staff include: (A) Mentors are appointed for all staff on fixed-term contracts; these mentors provide advice on career development issues and encourage fixed-term staff to apply for research funding and undertake transferrable-skills training. (B) All fixed-term staff are provided with opportunities to be actively involved with undergraduate teaching, including lecturing. (C) All fixed-term staff are invited to attend School staff forums.

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 average proportion of females on our committees is higher than the proportion of female staff in our School. It is envisaged that the proportion of females on our committees will increase as we continue to recruit a larger proportion of female staff. In order to avoid 'committee overload', for some of our committees the proportion of females is currently less than the proportion of female staff in our School.

Membership of our School's principal decision-making committee, namely our School Policy and Advisory Committee (SPAC), is ex officio; its membership comprises the Head of School, the chairs of various committees, as well as our Heads of Research Group. Therefore, in order to increase female representation on SPAC, we must first appoint female staff to these other senior positions in the School.

Actions.

4.22 The chair of our Equality and Diversity Committee (to be created, in part as a continuation of our Athena SWAN self-assessment team) will be invited to sit on our School's principal decision-making committee, namely our School Policy and Advisory Committee.

4.23 We aim to have at least one female member of academic staff sitting on our School Policy and Advisory Committee (which is our School's principal decision-making committee).

4.24 We aim to have at least one School committee chaired by a female member of academic staff.

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

The workload (teaching, pastoral and administrative) for each staff member is decided upon annually by the Head of School, taking into account the information yielded by each staff member's annual review process. The annual review process, which is conducted by the Head of School or one of the three Established Chairs, offers each staff member the opportunity to comment on her/his present workload and express preferences for her/his future workload. Generally, teaching, pastoral and administrative responsibilities are rotated according to the preferences of each staff member and the needs of school, while taking into account the career development and personal circumstances of each staff member. New members of staff are allocated relatively light teaching, pastoral and administrative workloads for their first year, at least.

Actions.

4.25 Interview panel membership to be taken into account by Head of School when allocating administrative jobs. (See also Action Point 4.21).

(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.*

School meetings generally take place between 10:00 and 16:00 hours, although there is currently no formal School policy on `core hours'. In practice, either the times for School meetings are arranged by consensus of those involved or if a staff member cannot make a meeting (due to a family commitment, for example), usually a substitute staff member volunteers to stand in for her/him. Social gatherings are often scheduled for 17:00, thereby allowing staff members to attend without being away from home late in the evening.

Actions.

4.26 Introduce a policy of core hours, namely 10:00 – 16:00 hours. School meetings should not be scheduled outside these hours, except in exceptional cases. Consideration will be given to scheduling seminars and colloquiums within these hours. However, our University does and will continue to schedule undergraduate classes outside of these core hours. The Head of School should therefore balance family commitments (or other personal circumstances) of staff members with the University requirements when allocating teaching commitments outside of core hours.

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

Our survey revealed that most staff members, both male and female, felt that the School was a female-friendly and inclusive working environment. No instances of overt gender (or other) discrimination were reported in our survey. There are several factors that may contribute to the positive culture in our School, including: (A) Most staff, particularly senior staff and our Head of School, operate `open-door policies'. (B) Our common room is well-used on a daily basis by our academic staff, postdocs and postgraduate students. (C) There is a considerable amount of collaboration within and between research groups.

(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.*

Our School's Publicity and Outreach Committee currently comprises three female and one male staff members. This committee organizes activities for local secondary schools as well as for the general public via the Edinburgh International Science Festival, for example. For these activities, this committee enlists the help of other members of our staff as well as our own postgraduate and undergraduate students. Membership of this committee is included in each staff member's workload allocation, and at each staff member's annual review there is an opportunity to discuss this.

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.

Maternity, paternity and adoption leave:

(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.*

No staff member has taken maternity leave in the past 3 years. See Action Point 4.30.

(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.*

No staff member has taken adoption or parental leave in the past 3 years. One staff member (at Grade 8) has taken paternity leave in the past 3 years (in 2012/13). The uptake of paternity leave would have been greater had babies been born during the teaching periods. In at least two instances, paternity leave was not applied for because babies were born outside of teaching periods when the administrative and pastoral workloads are generally light. In these instances paternity leave was taken informally, by taking a break from research work. See Action Point 4.30.

(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.*

There has been only one application for flexible working on the past 3 years; this was an unsuccessful application from a male professor in 2011/12.

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.*

Our survey revealed that many staff members were unsure of the options available for flexible working. There is a need to increase awareness of the options available. Furthermore, we recognize the important role that flexible working can play in our School, not only in helping those returning to work after a break but for all staff whose circumstances are such that flexible working would be beneficial.

Actions.

4.27 Provide details of our School's (and University's) policy on flexible working on our School's internal website and draw this to the attention of all staff by email and at School staff meetings.

4.28 The options for flexible working should be discussed at each staff member's annual review meeting.

4.29 Ensure that appropriate support and training is provided for the Head of School and other relevant members of the School's management team, in promoting and managing flexible working arrangements.

(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.*

Our survey revealed that some staff members were unsure of the options available for maternity and adoption leave and support on return, but these staff members felt confident they knew how to find out this information if they were to need it.

Actions.

4.30 The School will develop a policy on return to work after maternity, paternity, adoption or parental leave. This will include: (i) Offering flexible working arrangements, such as a reduced number of hours worked per week. (ii) Offering a lighter teaching/administration workload for a period of at least six months after returning to work. (iii) Ensuring that all teaching commitments offered take place inside core hours. This policy will be prominently displayed on the webpage of our

Equality and Diversity Committee on our School's internal website. The policy will be drawn to the attention of all academic staff, postdocs and postgraduate students.

5. Any other comments: maximum 500 words

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

One aspect of the culture in our School is reflected in the proportion of female speakers who present at each research group's seminar programme, and also the proportion of female speakers who present at our School's colloquium programme. (Colloquiums are general talks aimed at the entire School). The proportion of female seminar speakers for each research group and colloquium speakers are presented in the following table:

number of female / total number	2009–2010	2010–2011	2011–2012	average %age of female speakers
algebra	6/26	2/16	4/24	18%
analysis	1/18	2/14	4/19	14%
applied & computational	1/16	3/14	6/21	20%
colloquium	†	†	0/6	0%
geometry	†	†	1/22	5%
mathematical physics	4/25	2/28	3/35	10%
optimization	1/17	2/18	4/16	14%
postgraduate	5/23	6/27	4/16	23%
probability	0/1	0/5	0/5	0%
statistics	3/10	2/9	1/13	19%
topology	3/21	0/4	3/12	16%

† Reliable data not available.

The proportion of female seminar speakers varies considerably from year to year and from one research group to another. This reflects the proportion of female researchers in each discipline nationally (and internationally), to some degree. For several of our research groups, the proportion of female seminar speakers exceeds the proportion female staff in our School. If female researchers are more likely to have family commitments than male researchers, then it may be the case that female researchers are generally less inclined to accept seminar invitations than are male researchers. The data for our proportion of invited female speakers are not available. The proportion of female speakers at our postgraduate seminar is considerably higher than the proportion for all other seminar programmes; this because the speakers at this seminar programme are all our own postgraduate students and the proportion of female postgraduate students is greater than the proportion of female academic staff.

We believe that the gender balance of our seminar and colloquium programmes should reflect the gender balance in mathematical research community at large. An estimate of this gender balance is not readily available. There may well be significant differences from one research speciality to another. Furthermore colloquium speakers tend to be more senior figures in the community and the proportion of female mathematicians is less at senior levels. However, we consider the figure of 20% to be reasonable estimate which we adopt for our purposes here.

Actions.

5.1 Each research group Seminar Organizer should aim to have females constituting 20% or more of all speakers each year. However, it is recognized that in some research areas this may be difficult to achieve due to the small number of available female researchers. Where the 20% goal is not achieved, the Seminar Organizer should at least work towards this goal and report to the Equality and Diversity Committee (to be created, in part as a continuation of our Athena SWAN self-assessment team) the steps that have been taken in pursuit of this goal. An exception will be made in the case of the postgraduate seminar programme where the proportion of female speakers is limited by the proportion of our female postgraduate students.

5.2 The School Colloquium Organizer should aim to have females constituting 20% or more of all speakers each year in the Colloquium programme.

5.3 Each Seminar Organizer and the Colloquium Organizer should record the number of invited female speakers (as well as the number of female acceptances) each year. This data is to be monitored by our Equality and Diversity Committee.

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****.*

The action plan does not need to cover all areas at Bronze; however the expectation is that the department will have the organisational structure to move forward, including collecting the necessary data.