



Department Application

Bronze and Silver Award



ATHENA SWAN BRONZE DEPARTMENT AWARDS

Recognise that in addition to institution-wide policies, the department is working to promote gender equality and to identify and address challenges particular to the department and discipline.

ATHENA SWAN SILVER DEPARTMENT AWARDS

In addition to the future planning required for Bronze department recognition, Silver department awards recognise that the department has taken action in response to previously identified challenges and can demonstrate the of the actions implemented.

Note: Not all institutions use the term 'department'. There are many equivalent academic groupings with different names, sizes and compositions. The definition of a 'department' can be found in the Athena SWAN awards handbook.

COMPLETING THE FORM

DO NOT ATTEMPT TO COMPLETE THIS APPLICATION FORM WITHOUT READING THE ATHENA SWAN AWARDS HANDBOOK.

This form should be used for applications for Bronze and Silver department awards.

You should complete each section of the application applicable to the award level you are applying for.

Additional areas for Silver applications are highlighted throughout the form:
5.2, 5.4, 5.5(iv)

If you need to insert a landscape page in your application, please copy and paste the template page at the end of the document, as per the instructions on that page. Please do not insert any section breaks as to do so will disrupt the page numbers.

WORD COUNT

The overall word limit for applications are shown in the following table.

There are no specific word limits for the individual sections and you may distribute words over each of the sections as appropriate. At the end of every section, please state how many words you have used in that section.

We have provided the following recommendations as a guide.

| Department application | Bronze | Silver |
|-------------------------------|--------|--------|
| Word limit | 10,500 | 12,000 |
| <i>Recommended word count</i> | | |

| | | |
|---|-------|-------|
| 1. Letter of endorsement | 500 | 500 |
| 2. Description of the department | 500 | 500 |
| 3. Self-assessment process | 1,000 | 1,000 |
| 4. Picture of the department | 2,000 | 2,000 |
| 5. Supporting and advancing women's careers | 6,000 | 6,500 |
| 6. Case studies | n/a | 1,000 |
| 7. Further information | 500 | 500 |

| | | |
|--|----------------------------|----------------------|
| Name of institution | University of York | |
| Department | Mathematics | |
| Focus of department | STEMM | |
| Date of application | 31 July 2023 | |
| Award Level | Bronze | |
| Institution Athena SWAN award | Date: April 2015 | Level: Bronze |
| Contact for application <small>Must be based in the department</small> | Dr Emilie Dufresne | |
| Email | emilie.dufresne@york.ac.uk | |
| Telephone | 01904 32 4158 | |
| Departmental website | www.york.ac.uk/maths/ | |

Abbreviations

| | |
|--------|--|
| F/M/PN | female / male / "prefer not to say" & "non-binary" |
| AS | Athena Swan |
| BoS | Board of Studies |
| DoA | Director of Admissions |
| DMT | Departmental Management Team |
| DHFO | Deputy Head of Faculty Operations |
| DHoD | Deputy Head of Department |
| DoM | Department of Mathematics |
| DRC | Departmental Research Committee |
| DTC | Departmental Teaching Committee |
| ECR | Early-Career Researcher |
| EDI | Equality, Diversity and Inclusion |
| EGPC | Equalities and Good Practice Committee |
| EGPCS | EGPC Culture Survey |
| FT | full time |
| GRSC | Graduate Research School Committee |
| HoD | Head of Department |
| HoS | Head of Section |
| LMS | London Mathematical Society |
| OPEO | Outreach and Public Engagement Officer |
| PDRA | Postdoctoral Research Associate |
| PI | Principal Investigator |
| PG | postgraduate |
| PGR | postgraduate research students (MSc by research, MPhil, PhD) |
| PGT | postgraduate students (Taught MSc) |
| PR | performance review |
| PSG | Pastoral Support Group |
| PSS | Professional and Support Staff |
| PT | part time |
| RF | Research Facilitator |
| R&T | Academic Staff contracted to do both Research and Teaching |
| SAT | Self-Assessment Team |
| SSLC | Staff Student Liaison Committee |
| UG | Undergraduate students |
| UoY | University of York |
| UoYES | UoY Engagement Survey (run by UoY; gender not recorded) |

Academic years: 2020/21 Calendar years: 2021 etc.

Sources of Data:

A-level and GCSE outcomes for England: ofqual website
Benchmarking data for UG, PGT and PGR students: HESA via the University of York's Tableau system.

Staff data: the University of York's Tableau system. Data is for the 31st December, in the middle of the academic year stated (i.e., December 31st 2021 for the academic year 2021/22).

Some more detailed staff and student (UG, PGT, PGR) data is held by the department.

Remark: We are aware that there are discrepancies between the student data available through HESA and the department held data. When data overlaps, we use department held data for our analysis, and HESA data for benchmarking purposes.

Word count: $499 + 716 + 637 + 2239 + 7250 + 60 = 11401$ (of 11,500 =1000+10,500)

1. LETTER OF ENDORSEMENT FROM THE HEAD OF DEPARTMENT [499 WORDS]

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

An accompanying letter of endorsement from the head of department should be included. If the head of department is soon to be succeeded, or has recently taken up the post, applicants should include an additional short statement from the incoming head.

Note: Please insert the endorsement letter **immediately after** this cover page.

Head of Department

Professor Martin Alan Bees
MA (Oxon) PhD (Leeds) FIMA

27th July 2023

Head of Athena Swan,
Advance HE,
First floor, Napier House
24 High Holburn,
London WC1V 6AZ

Dear Athena Swan Committee,

I am writing to support the Athena Swan application as Head of Department for Mathematics at the University of York.

Our field faces a challenge. Nationally, across all subjects, women hold 33% of professorships, but in Mathematics this drops to 14% (HESA).

The drop-off begins at A-Level, in a pattern that is seen in many STEM subjects but is particularly severe in Mathematics. Whilst 38% of Mathematics A-Levels are taken by women, they pursue just 19% of PhDs (HESA). This creates an ever-narrowing pipeline of talent as women are 'lost' from Mathematics.

The same picture repeats in other countries. For example, in 2013, Hee Oh became the first woman tenured in mathematics at Yale (founded 1701). There is a global shortage of women in mathematics, becoming more acute at higher levels, reinforcing negative cycles as role models of professorial achievement are limited. Only in the past decade have some of the most prestigious prizes in Mathematics been awarded to women. I hope that these vastly overdue recognitions are a sign that the mathematics community is moving in the right direction.

The progress made in our Department, led by our Equality and Good Practice Committee (EGPC), is very encouraging. There remains room for improvement and growth (which our Action Plan tackles head on), but we are proud that our department has an undergraduate population that is 40% female (above the 36% Russell Group average), a greater proportion than in our recruitment pool.

Our commitment to Athena Swan has resulted in long-term improvements. Gender-specific awareness is firmly embedded within departmental management and decision-making, with the EGPC Chair a full member of the Departmental Management Team (DMT).

I am personally committed to supporting the Department in going further. During the recent Research Excellence Framework exercise I noted that three quarters of our impact case studies were led by women, yet our academic staff are 15% female. Furthermore, impact was substantially undervalued in our workload model. This inequity had to be tackled. DMT agreed to improve credit

attributed to impact work and actively encourage other staff to participate and value the work of colleagues whose research achieves positive outcomes outside academia.

Our department alone won't solve the significant gender-related challenges in our field but we want to be part of the collective effort, to ensure we can provide the best environment at York for women to succeed at all career stages from undergraduate to professor.

Led by EGPC Chair Emilie Dufresne, our Athena Swan Action Plan has four priorities: making gender equality and good practice central to our department's culture; making our department into an environment where women (and members of other underrepresented groups) can thrive; supporting women's careers at all stages; and supporting the national and international community's effort to attain gender equality in Mathematics at all stages.

There should be no barriers to academic careers or study based on gender. The loss of women at the top and throughout our field is alarming, and is, undeniably, to the detriment of Mathematics.

Yours sincerely,

Professor Martin Bees



Head of Department, Mathematics

2. DESCRIPTION OF THE DEPARTMENT [716 WORDS]

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

Please provide a brief description of the department including any relevant contextual information. Present data on the total number of academic staff, professional and support staff and students by gender.

The *Department of Mathematics* (DoM) belongs to the *Faculty of Sciences*. With more than 52 permanent academic staff, of which ten are women, it is one of the smaller mathematics departments within the Russell Group. Its sections—*Statistics*, *Pure* and *Applied Mathematics*—are overseen by *Heads of Section* (HoS), reporting to the *Head of Department* (HoD), who reports to the *Dean* of the Faculty. The DoM has close links with several research centres, including the York Centre for Quantum Technologies (YCQT) and the Biological Physical Sciences Interdisciplinary Network (BPSInet). Some staff are joint appointments with the Department of Biology (*Athena Swan Gold Award* holder).



An entrance of DoM, students working together, and a lecture in the Dusa McDuff Room.

The *Departmental Management Team* (DMT, 5F/9M) oversees the running of the department. It is supported by the *Departmental Teaching Committee* (DTC, 3F/10M), the *Equality and Good Practice Committee* (EGPC, 4F/4M, with elected UG and PGR representatives 1F/1M/1PN), the *Departmental Research Committee* (DRC, 4F/8M), the *Graduate Research School Committee* (GRSC, 1F/11M), the *Assessment Committee* (3F/7M) and *Exceptional Circumstances affecting Assessment committee* (ECA, 1F/4M). The *Board of Studies* (BoS) comprises all permanent academic

staff and includes representatives of other groups. DTC and EGPC currently have female chairs, all other committees have male chairs.

Three annual *Staff Meetings* provide a forum to discuss matters relevant to all staff and to disseminate information. A staff newsletter *Blackboard* is emailed weekly. Students can initiate discussions with informal chats in the main office or via their representatives in the SSLC.

In 2021/22 the percentage of female UGs in York was 40%, higher than the Russell Group average of 36% (HESA data).

For context, in 2022, 49.3% of (mandatory) GCSE Mathematics candidates were female, as were 48.2% of pupils awarded grade 7 or higher; at A-level 37.3% of pupils achieving Mathematics A-levels were female, with 28.1% for Further Mathematics. Among students achieving grades expected by Russell Group Mathematics programmes (A/A*), 37.6% were female for Mathematics, and 27.1% for Further Mathematics. The same year, 91% of UG entrants in DoM had a Mathematics A-level, of which 66% also had a Further Mathematics A-level. Therefore, DoM's UG has a higher proportion of female students than our recruitment pool.

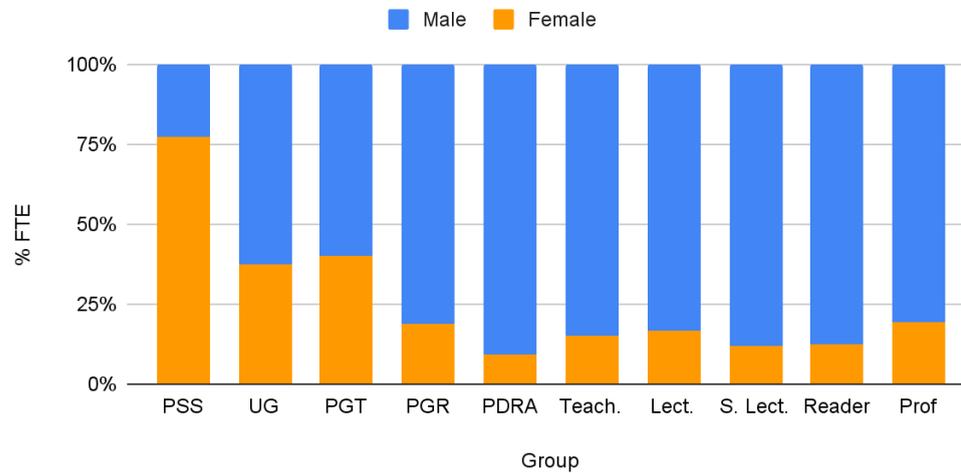
To address the drop in female students after GCSE level, outreach is essential. We need to intensify our engagement with outreach, actively promoting the involvement of female role models ([Action 4.1](#), see Section 5.viii for more detail).

The department attracts approximately 60 PGTs each year, many from overseas. In 2021/22, 40% of PGTs were women. This has been mostly stable throughout the years.

The PGR population has nearly doubled since 2011/12, from 37 to 62, in 2021/22. After peaking at 30% in 2016-2017, the proportion of female PGR students was 19% in 2021/22, just above 2011/12 levels. The proportion of female PGR students in York has been below the Russell group average of 25.8% since 2018/19. Efforts to address this challenge are outlined in the department's action plan ([Action 3.3 and 4.4](#), see section 4.1.iii for details).

The proportion of female academic staff is lower (Fig. 2). In 2021/22 DoM permanently employed 48.934FTE mathematicians of which 7.5FTE (15%) were women, comparable to the 2020/21 Russell group average of 16%. DoM has seen slow progress; in 2003, 2 out of 25 permanent posts (8%) were held by women. Progress is likely to continue to be slow because the shortage of female mathematicians is persistent and global. In 2021/22, there were 6.5FTE teaching only staff with 1FTE women (15%) and 11FTE research only staff with 1FTE women (9%). There were 11.5FTE PSS staff with 11.32FTE women (76%).

Figure 2: Snapshot of student and Staff, based on DoM data for 2021/22



As clearly visible in the above portrait of DoM, the main challenge we find is the under-representation of women throughout the staff and student pipeline. Our action plan seeks to address this challenge and is organised into four priority areas:

1. Make gender equality and good practice a central part of our department's culture.
2. Make our department into an environment where women (and members of other underrepresented groups) can thrive.
3. Support women's careers at all stages.
4. Support the national and international Mathematics community's effort to attain gender equality in mathematics at all stages.

3. THE SELF-ASSESSMENT PROCESS [637 WORDS]

Recommended word count: Bronze: 1000 words | Silver: 1000 words

- (i) a description of the self-assessment team

Our Athena Swan application is led by the *Equality and Good Practice Committee* (EGPC). This committee consists of four *academic* staff, one *post-doctoral researcher representative* (PDRA), two *undergraduate representatives* (UG), one *post-graduate representative* (PGR), and one *support staff representative* (PSS). The HoD, the *Deputy Head of Faculty*

Operations (DHFO) and *Research Facilitator* (RF) are *ex officio* members. The committee is provided with admin support. Time spent on EGPC business is accounted for in the *workload model* for academic staff (see Section 5.6.v for details).

Six centrally timetabled meetings take place each year during term/semester core hours (see Sec. 5.6.vi)

Following an unsuccessful attempt in 2022, and many changes and disruptions to our PSS team (resulting in loss of expertise and resources relating to EGPC), it has taken longer to compose this AS application. The self-assessment team has changed since the original submission (see tables below). We took the time to reflect on our original submission and endeavoured to better share the workload: the evolving application is a shared document, the whole SAT has editing rights, and the SAT Lead assigns specific tasks to individuals.

| Members of SAT for this resubmission | | | |
|--|---|---------------------------------|------------------|
| Name and title | | Role in SAT and EGPC | Biography |
| Dr Emilie Dufresne, Lecturer in Algebra |  | Chair EGPC, SAT lead | |
| Prof. Martin Bees, Professor in Mathematical Biology, HoD |  | Ex-officio member of EGPC | |
| Minna Lehtinen, Deputy Head of Faculty Operations, Faculty of Sciences (DHFO; holds portfolio for DoM and Department of Psychology) |  | Ex-officio member of EGPC | |

| | | | |
|--|---|--|--|
| <p>Dr Annabel Jenkins, Research Facilitator (PT)</p> |  | <p>Ex-officio member of EGPC</p> | |
| <p>Prof Sanju Velani, Professor in Number Theory</p> |  | <p>Deputy Chair EGPC</p> | |
| <p>Dr Jess Hargreaves, Lecturer in Data Science</p> |  | <p>Academic Staff representative in EGPC, SAT quantitative data team</p> | |
| <p>Dr Tom Hebdige, PDRA</p> |  | <p>PDRA representative in EGPC</p> | |
| <p>Dr Fabio Profumo, Lecturer</p> |  | <p>Academic Staff representative in EGPC</p> | |
| <p>Dr George Constable, Lecturer</p> |  | <p>SAT quantitative data team</p> | |
| <p>Beth Dixon, 2nd year PGR</p> |  | <p>PGR representative in EGPC</p> | |

| | | | |
|--|---|--------------------------------|--|
| 3rd year BSc Maths | | UG representative in EGPC | |
| 3rd year BSc Maths | | UG representative in EGPC | |
| Tom Rawle, Administration Manager |  | PSS representative | |
| Helen Young, PA to Head of Mathematics/ Administrator |  | Administrative support to EGPC | |

Table 3.i.a: Members of SAT for this resubmission

| Members of the SAT for the 2022 submission who are no longer on SAT | | | |
|--|---|---|------------------|
| Name and title | | Role in EGPC/ original SAT | Biography |
| Dr Stefan Weigert Reader |  | SAT lead until submission in 2022, Member of EGPC (2017-2022, Chair EGPC 2017-2019) | |
| Cordelia Webb, Now 4th year PGR |  | PGR representative 2021-2022 | |
| Departmental | | Ex-officio | |

| | | | |
|---------------------------------------|--|--|--|
| Manager until 2022 | | member of EGPC until Spring 2022. | |
| PA to HoD until March 2022 (PT) | | Admin staff representative | |
| Graduated with a BSC in Maths in 2022 | | UG representative 2021-2022 | |
| PSS staff (PT) | | Administrative support for EGPC until 2022 | |

Table 3.i.b: Members of the SAT for the 2022 submission who are no longer on SAT

(ii) an account of the self-assessment process

Since 2010, EGPC promotes and ensures an inclusive and fair work environment by monitoring procedures and by flagging, and working towards the removal of, obstacles which might prevent a balance of men/women, or cause underrepresentation of other groups.

Culture surveys seek opinions from various groups (Table 3.ii.a). They lapsed during the pandemic and PSS staff changes, but resumed in 2023. Return rates have been really low for students, especially in 2021 (Table 3.ii.b). This coincides with all surveys going online and low response rates for other surveys aimed at students (student feedback on taught modules). Staff response rates on the 2021 survey were also low, probably due to the Pandemic. We are considering the timing of future surveys, and a potential return to paper surveys for final year students.

| | | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 |
|-----------|--------------|---------|---------|---------|---------|---------|
| UG | Yr-1 | | 19/16/1 | 7/2/0 | 24/13/1 | 17/14/1 |
| | Final | | 29/32/2 | 27/30/1 | 20/28/3 | 12/19/3 |
| PG | PGT | | 5/4/0 | 2/1/0 | 6/6/0 | 8/5/0 |
| | PGR | | 7/10/2 | 4/11/2 | 5/19/2 | 4/9/3 |

| | | | | | | |
|-------|-------|-------------|-------|--|-------|--------|
| Staff | PSS | 46 UoYES | 5/2/0 | | 6/1/1 | |
| | Acad. | | | | | 4/18/1 |

Table 3.ii.a: Number of responses to EGPC surveys by gender (F/M/PN)

| | | 2016/17 | 2017/18 | 2018/19 | 2019/20 | 2020/21 |
|-------|-------|---------|---------|---------|---------|---------|
| UG | Yr-1 | | 15 | 3 | 14 | 13 |
| | Final | | 31 | 39 | 34 | 21 |
| PG | PGT | | 12 | 3 | 9 | 11 |
| | PGR | | 28 | 33 | 45 | 26 |
| Staff | PSS | 63 | 78 | | 80 | |
| | Acad. | | | | | 38 |

Table 3.ii.b: Return rates of EGPC surveys (%)

We plan to hold focus groups as part of our action plan (**Action 2.6**), and will include focus groups specifically with women.

EGPC addresses issues identified from surveys, cohort data, and through staff and student representatives. Publicly visible responses to student suggestions/criticism are provided online when appropriate. EGPC also scrutinises job adverts and guidelines for Maternity/Paternity Leave and reviews departmental policies. EGPC has an annual budget (£1000) to support: outreach activities; the attendance of staff/students at relevant events (such as the LMS workshop on increasing diversity in PhD admissions); and expenses for the EGPC Annual Lecture.

Overhauled in 2021, the dedicated VLE webpages now represent a central resource for staff about matters related to EDI and good practice, with access to previous EGPC meeting minutes.

EGPC matters are a recurrent agenda item at DMT meetings and regularly feature at *Staff Meetings*. We endeavour for an EGPC member to also be on GRSC. EGPC also maintains good links with the student-run *Mathematics Society*.

EGPC liaises with equivalent teams in other departments via the *Athena Swan Science-Faculty Working-Group*. It is advised by University's EDI

Committee, and aligns its actions with those adopted through the institutional *AS Award*.

(iii) plans for the future of the self-assessment team

To thoroughly embed EDI in DoM's processes, EGPC plans to implement the new action plan through four *EGPC Working Groups* (Table 3.E). The working groups will take responsibilities for relevant actions (**Action 1.2**).

| Area | Members of Working Group | Priorities |
|---------------------------------|--|--|
| UG Student Matters | <ul style="list-style-type: none"> ● Chair, Department Teaching committee ● UG Administrator ● Director of Admissions ● Student Services Manager ● UG Representative (EGPC) | <ul style="list-style-type: none"> ● Keep track of UG student data and update tables and figures annually ● Take responsibility for existing actions related to current UG students and admission (Actions 2.6, 3.2, 4.2, 4.5) ● Propose new actions regarding UG student matters |
| PG Student Matters | <ul style="list-style-type: none"> ● PG Administrator ● PGR Representative (EGPC) ● MSc Programme Director ● Chair, Graduate Research School Committee | <ul style="list-style-type: none"> ● Keep track of PGT and PGR student data and update tables and figures annually ● Take responsibility for existing actions related to current PGT and PGR students and admission (Actions 2.5, 2.6, 3.1, 4.3, 4.4) ● Propose new actions regarding PG student matters |
| Organisation and Culture | <ul style="list-style-type: none"> ● Chair, EGPC ● Section Heads ● DHFO ● Admin Manager | <ul style="list-style-type: none"> ● Keep track of staff data ● Take responsibility for actions related to staff, as well as organisation and culture (Actions 1.1, 1.3, 2.1, 2.6, 4.1, 4.5) |

| | | |
|--|--|--|
| <p style="text-align: center;">Career Development</p> | <ul style="list-style-type: none"> ● Research facilitator ● Careers and Employability Officer ● PDRA representative (EGPC) ● Section Heads | <ul style="list-style-type: none"> ● Take responsibility for actions related to career development- such as promotion and support for ECR's (Actions 2.3, 2.6, 3.3, 3.4) |
|--|--|--|

Table 3.iii: EGPC Working groups

Academic EGPC members are appointed by the HoD considering workloads, gender balance, and inclusion of under-represented groups of staff and students. EGPC has a *Deputy Chair* who can step in when the chair is on research or other leave, ensuring continuity.

Vacancies for UG/PGR/PDRA representatives on EGPC are announced widely, and incumbents encourage others to volunteer. Elections for the PGR representative to EGPC and other committees are held annually in September for new representatives to start in Semester 1.

4. A PICTURE OF THE DEPARTMENT [2239 WORDS]

Recommended word count: Bronze: 2000 words | Silver: 2000 words

4.1. STUDENT DATA

(i) Numbers of men and women on access or foundation courses

DoM does not run access/foundation courses.

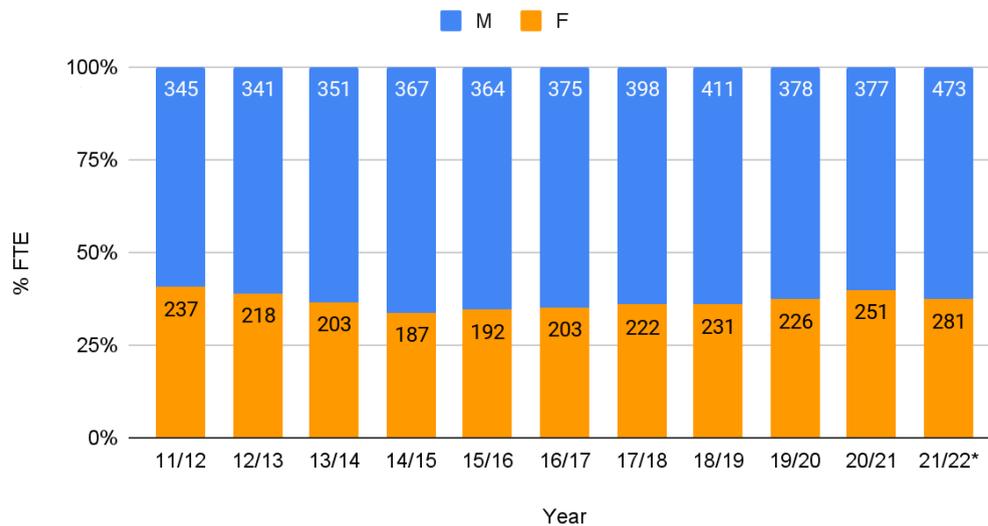
(ii) Numbers of undergraduate students by gender

Full- and part-time by programme. Provide data on course applications, offers, and acceptance rates, and degree attainment by gender.

Overall UG population and sector comparison

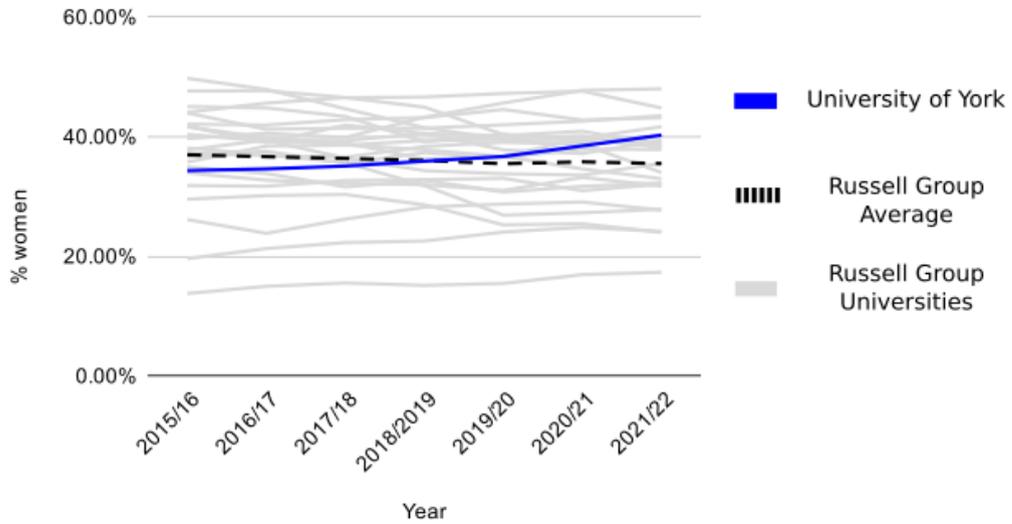
Part-time study is possible only in exceptional circumstances emerging from Student Support Plans, and in discussion with the Chair-DTC and the University's Special Case Committee. Currently 1F student is in this scenario.

Figure 4.1.ii.a: Overall UG Student Population



After the percentage of female UGs dipped to 34% in 2014/15, DoM restructured its *Visit Days* to include interviews, as proposed in our 2015 AS action plan. The proportion of female UGs then rose to 41% in 2020/21 (figure 4.1.ii.a). York moved from rank 18th in the Russell Group in 2015/16 up to rank 6 in 2021/22 (Fig. 4.1.ii.b).

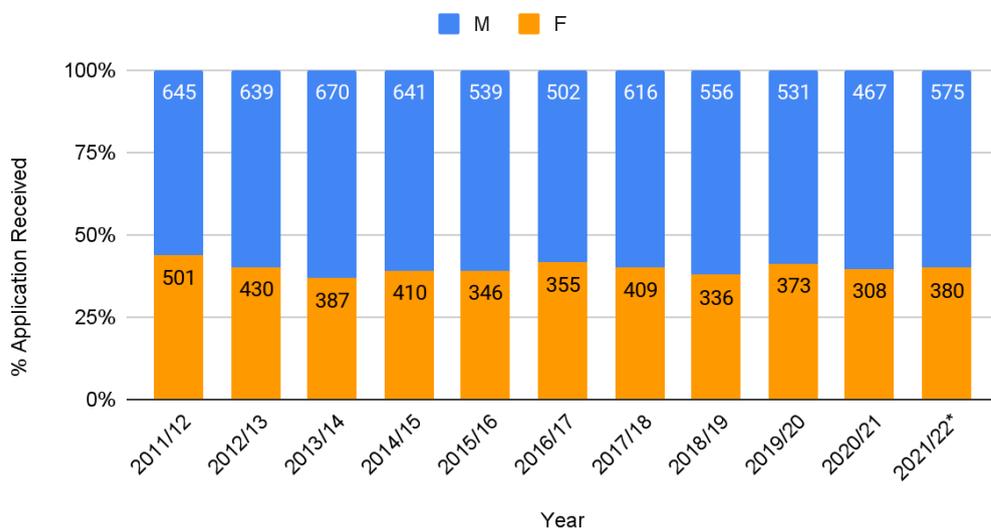
Figure 4.1.ii.b: Female UG maths students - sector comparison



Applications, offers and acceptances

The proportion of female UGs (cf. Fig. 4.1.ii.a) is in line with the proportion of female UG applicants. Aggregating single-subject and combined programmes led by DoM shows that 40% of applicants are female (Fig. 4.1.ii.c), this is slightly higher than the proportion of female pupils achieving A-level in mathematics (38%), and significantly higher than their proportion for A-Level further mathematics (28%).

Fig 4.1.ii.c: UG Applications Received



On average, 96% of F-applicants, and 93% of M-applicants, received offers (Table 4.1.ii.d). On the other hand, the percentage of accepted offers is higher on average for men than for women (Table 4.1.ii.e).

| | 2011 /12 | 2012 /3 | 2013 /14 | 2014 /15 | 2015 /16 | 2016 /17 | 2017 /18 | 2018 /19 | 2019 /20 | 2020 /21 | 2021 /22 | Average |
|----------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|
| F | 97 | 95 | 96 | 95 | 97 | 96 | 96 | 96 | 95 | 94 | 96 | 96 |
| M | 93 | 89 | 94 | 92 | 94 | 93 | 95 | 94 | 94 | 95 | 91 | 93 |

Table 4.1.ii.d: UG applications receiving offers (%)

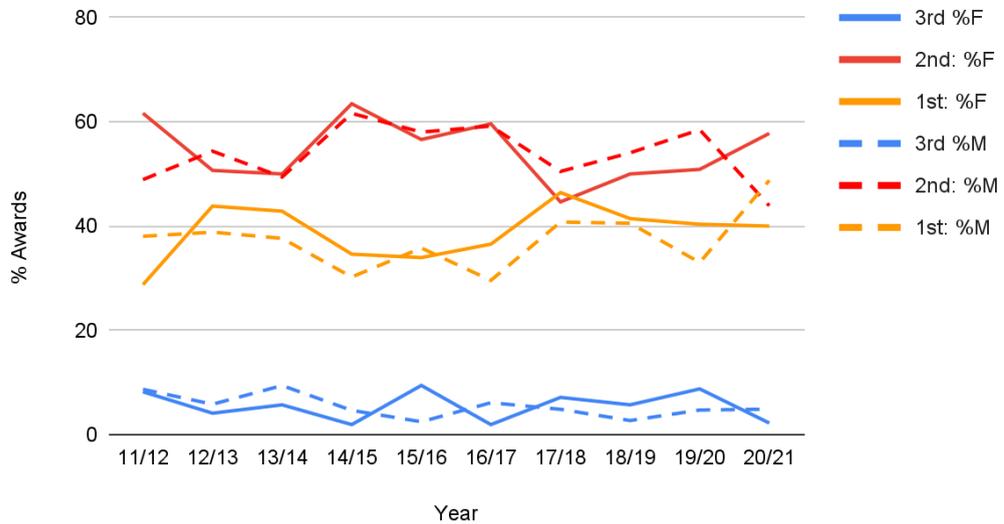
| | 2011 /12 | 2012 /13 | 2013 /14 | 2014 /15 | 2015 /16 | 2016 /17 | 2017 /18 | 2018 /19 | 2019 /20 | 2020 /21 | Average |
|----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|
| F | 23 | 21 | 25 | 24 | 26 | 28 | 31 | 24 | 24 | 22 | 25 |
| M | 29 | 24 | 31 | 31 | 33 | 34 | 34 | 25 | 23 | 25 | 29 |

Table 4.1.ii.e: UG offers accepted (%)

Degree attainment

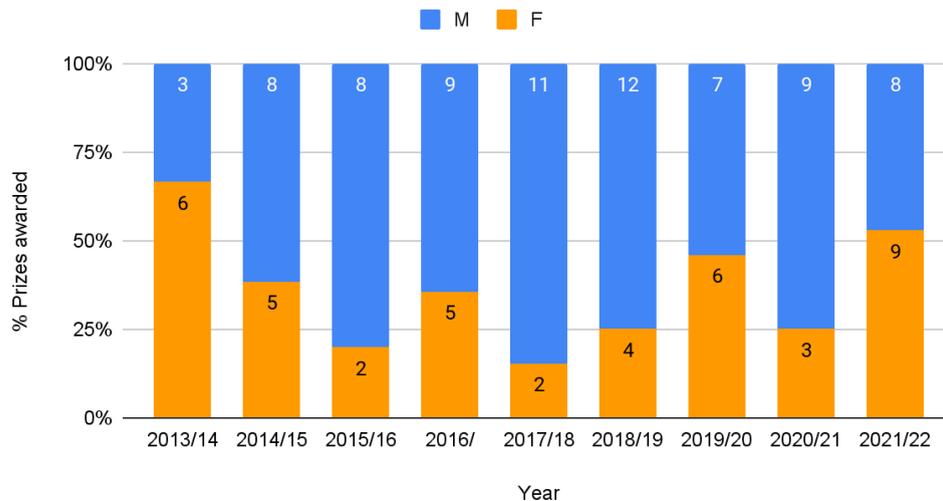
Since 2011/12, the percentage of first class degrees among female UG graduates has been generally higher than among male UG; the trend was reversed in 2020/21 (figure 4.1.ii.f). We need to explore whether this is an example of the gendered effect of covid (**Action 3.2**). If the difference persists, we will investigate the reasons through focus groups, which will be added to the agenda of the existing SSLC (**Action 2.6**).

Figure 4.1.ii.f: UG degree classifications



Each year, DoM awards prizes to UGs. Whenever the proportion of female UGs was at its highest, the proportion of female awardees was even higher (figure 4.1.ii.g). When the proportion of female UGs was at its lowest, the proportion of female awardees was even lower. The low proportion of female awardees in 2020/21 coincides with a lower proportion of 1st class degrees among female students in 2020/21 (see figure 4.1.ii.f).

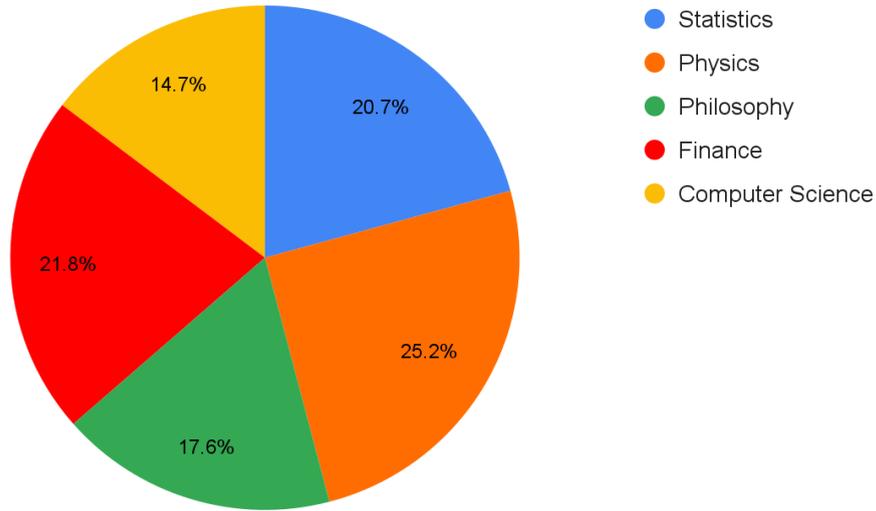
Fig 4.1.ii.g: UG Prize Winners



Combined programmes

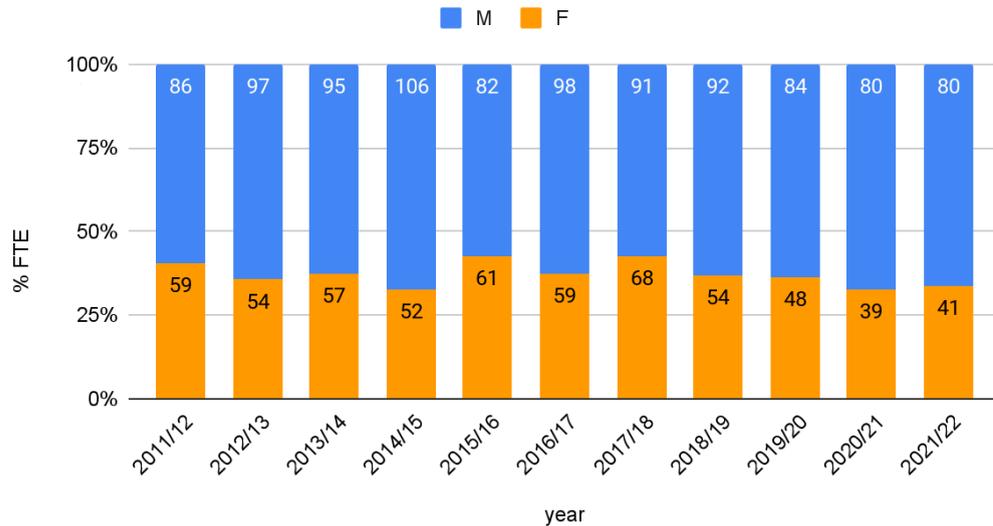
DoM leads five combined programmes: *Mathematics and Computer Science/Finance/Philosophy/ Physics/Statistics*. Figure 4.1.ii.h below shows the relative size of each programme on average from 2011/12 to 2021/22.

Figure 4.1.ii.h: UG students on combined programmes (10 Year Av.)



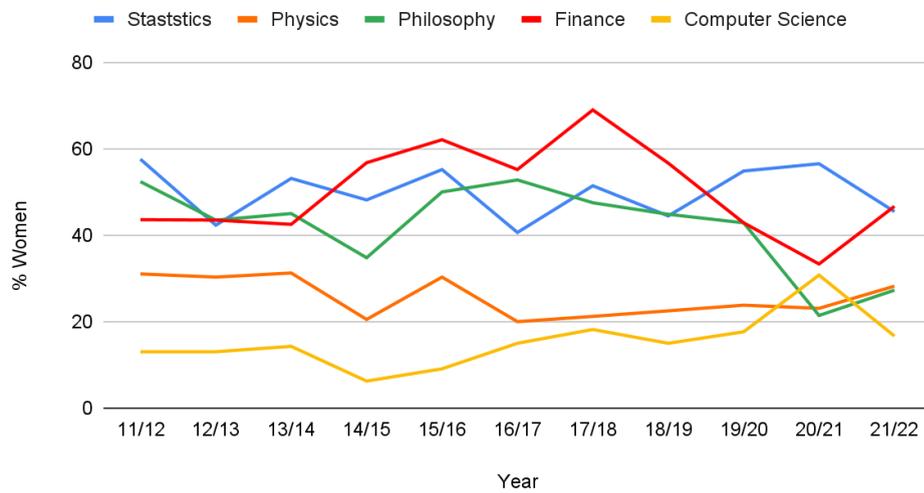
From 2011/12 to 2021/22 the proportion of women among UGs on the combined BSc programmes has varied around an average of 37% (Fig. 4.1.ii.i).

Figure 4.1.ii.i: UG populations - combined programmes



The proportion of women in each programme, reflects that of the single-subject programme of the non-mathematics component (Fig. 4.1.ii.j). In 2017/18, for example, 11% of the UGs reading *Computer Science* at York were female, compared to 22%F enrolled on the combined programme.

Figure 4.1.ii.j: % women UG students on combined programmes



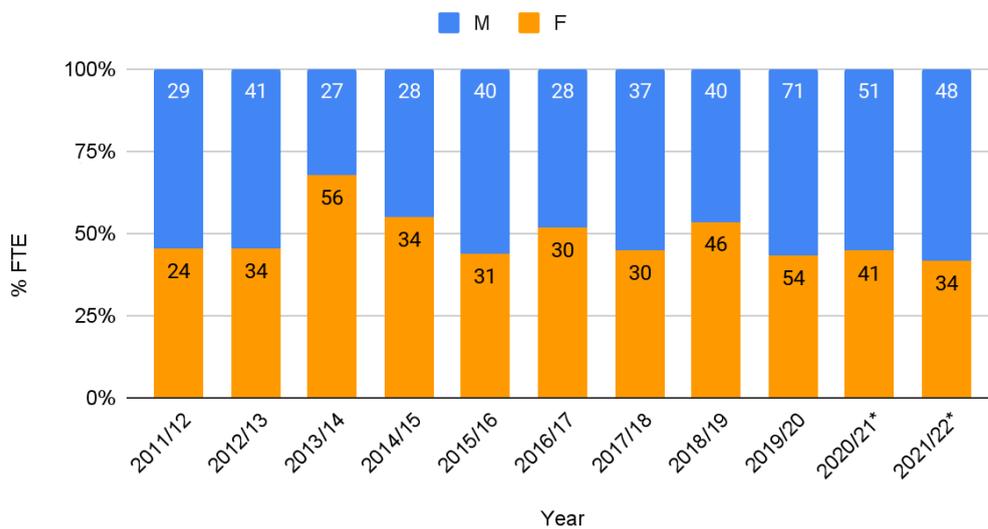
(iii) Numbers of men and women on postgraduate taught degrees

Full- and part-time. Provide data on course application, offers and acceptance rates and degree completion rates by gender.

Overall PGT population and sector comparison

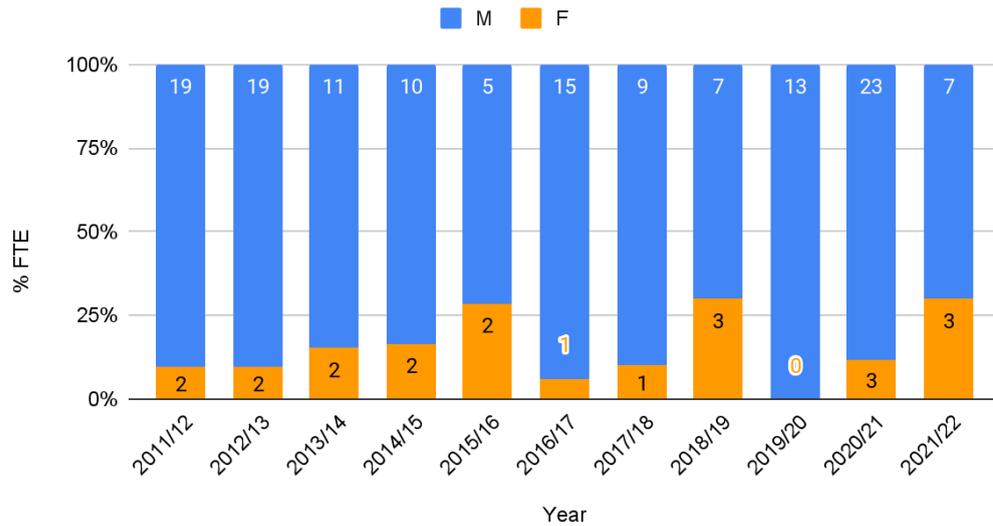
The ten year average for the *full-time postgraduate campus-based* taught courses is near gender equality (48%F/52%M). (Fig. 4.1.iii.a).

Fig 4.1.iii.a: PGT students (full time, campus based)



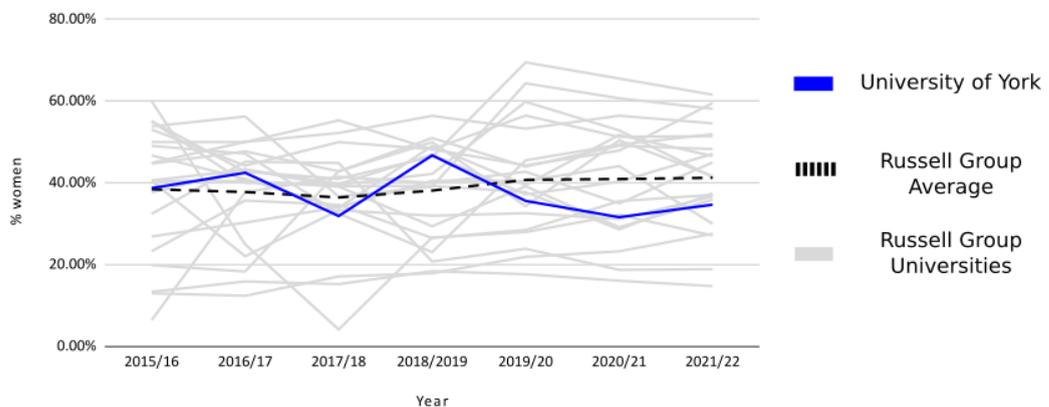
The proportion of female students is consistently lower in the online programme (figure 4.1.iii.b). During the pandemic, the total headcount of students enrolled on the online programme was higher.

Fig 4.1.iii.b: PGT students (part time, online)



Combining the campus-based and online degrees, between 2011/12 and 2021/22 the proportion of F-PGTs has fluctuated around the average of 43% (based on department-held data). There is a significant discrepancy between the department-held data and the HESA held data for PGT in 2020/21 which were used for benchmarking in Figure 4.1.iii.c. The departmental and sector-wide F/M-PGT disparity persists.

Figure 4.1.iii.c: Female PGT maths students - sector comparison



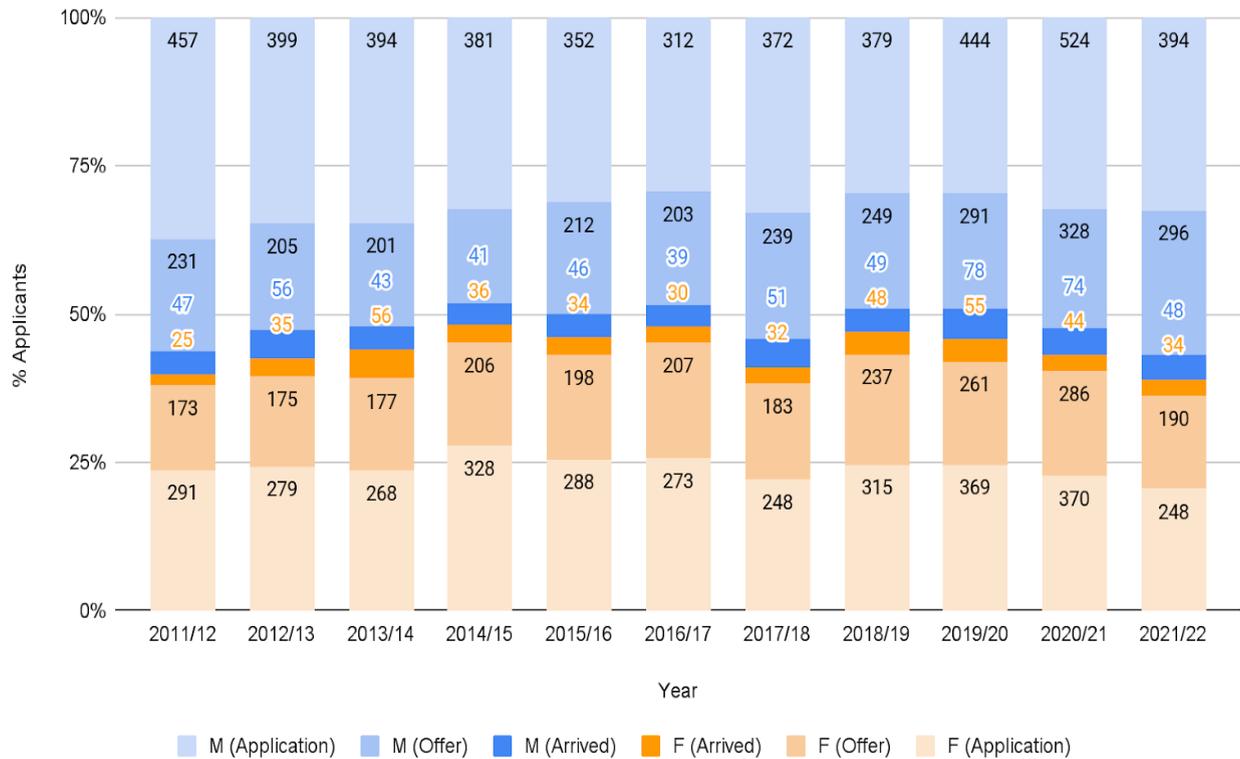
Applications, offers and acceptances

More potential PGTs accept our firm offers than eventually arrive (Table 4.1.iii.d), especially international students, irrespective of gender. In Figure 4.1.iii.e, we opted to consider arrivals, rather than acceptances.

| | 2011 /12 | 2012 /13 | 2013 /14 | 2014 /15 | 2015 /16 | 2016 /17 | 2017 /18 | 2018 /19 | 2019 /20 | 2020 /21 | 2021 /22 | aver age |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|
| F | 89 | 83 | 90 | 86 | 97 | 91 | 80 | 92 | 86 | 80 | 81 | 87 |
| M | 90 | 85 | 84 | 87 | 88 | 80 | 81 | 96 | 95 | 91 | 75 | 87 |

Table 4.1.iii.d: PGT students who have accepted firm offers and then go on to arrive in York (%)

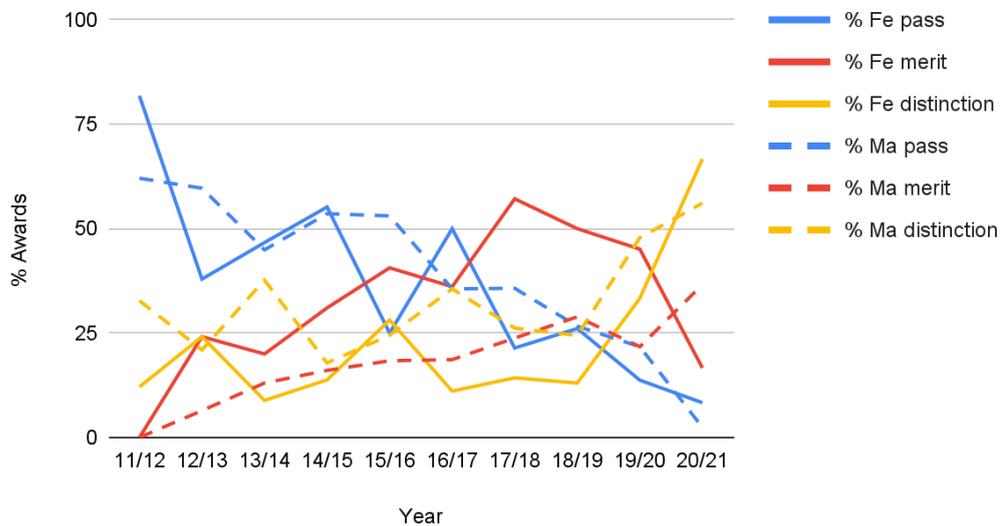
Fig 4.1.iii.e: PGT Applications and breakdown into offers and accepted offers



Degree attainment and withdrawal rates

Award levels for PGT programmes are *Distinction/Merit/Pass* and *Lower exit*. More women than men were awarded *Distinction* in only two of nine years. However, women outperform men when combining the levels *Distinction/Merit* over six years (Fig. 4.1.iii.f).

Figure 4.1.iii.f: PGT degree classifications



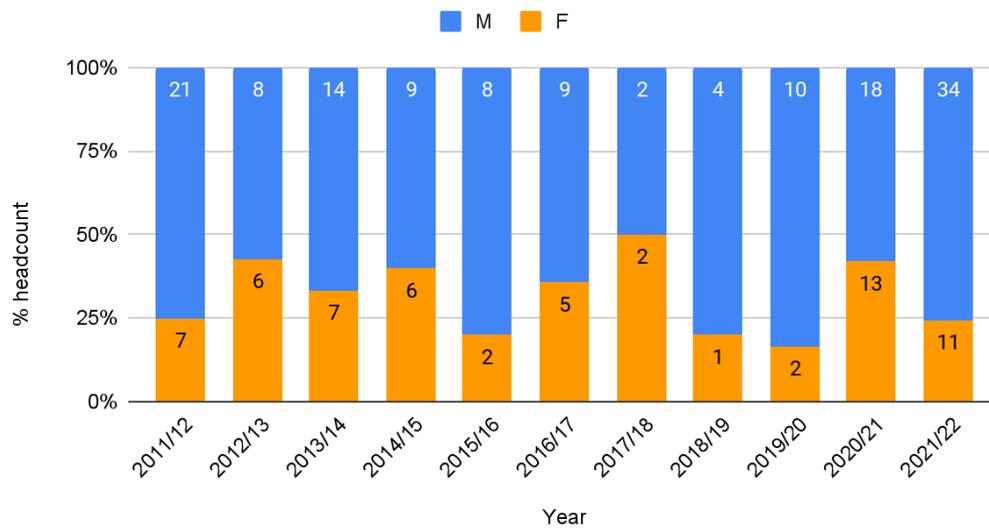
Since 2011/12, 2F/9M students have been awarded prizes for outstanding MSc dissertations, that is 18%F although the cohort was consistently 40%F or above (Table 4.1.iii.g). Because of the prize criteria, since 2011/12, no prizes were awarded in five academic years. Inspired by what we do with UGs, we plan to review how we award PGT prizes, in particular considering a more inclusive system. (Action 3.1).

| | 2011 /12 | 2012 /13 | 2013 /14 | 2014 /15 | 2015 /16 | 2016 /17 | 2017 /18 | 2018 /19 | 2019 /20 | 2020 /21 | 2021 /22 | total |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
| F | | | 1 | | | | | 1 | | | | 2 |
| M | 1 | 3 | 2 | 1 | | | | 1 | | 1 | | 9 |

Table 4.1.iii.g: Prizes for outstanding MSc dissertation.

The average overall PGT withdrawal rates are 10%F/18%M (Fig. 4.1.iii.h). We do not plan to act specifically on this. We will continue to monitor the gender bias of withdrawal rates during focus groups (Action 2.6). The pandemic seems to have led to a larger number of withdrawals in 2020/21 and 2021/22.

Fig 4.1.iii.h: PGT students who withdraw



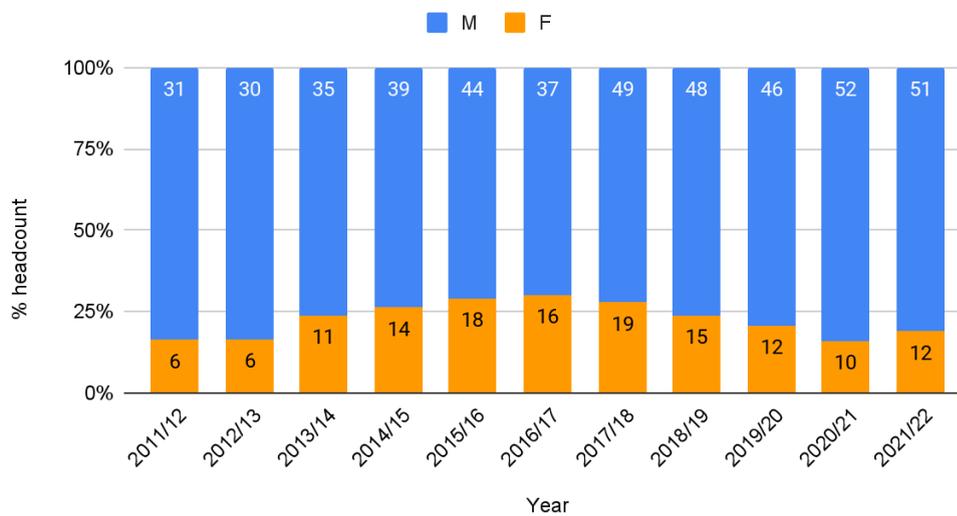
(iv) Numbers of men and women on postgraduate research degrees

Full- and part-time. Provide data on course application, offers, acceptance and degree completion rates by gender.

Overall PGR population and sector comparison

Since 2011/12, PGR cohorts have increased from 37 to over 60 students. There are currently 2F/1M part-time PGRs, including 1F on the *PhD with Foundations* programme.

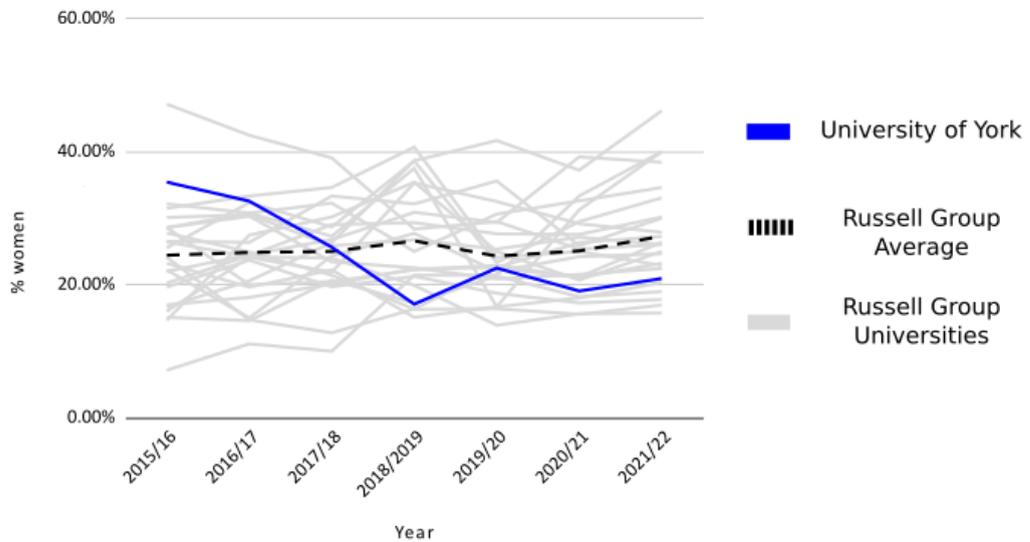
Fig 4.1.iv.a: Overall PGR student population



After an increase in the proportion of female PGRs from 2011/12 to 2015/2016, from 16% to 30%, the proportion dropped again to under 20% (Fig. 4.1.iv.a). Since 2017/18 the proportion of female PGRs in York has been below the Russell Group average of 25.8% (Fig 4.1.iv.b).

In four EGPC surveys (2018-2021), 80-90% of both F/M-PGRs consistently “would recommend the department as a great place to study for female students.”

Figure 4.1.iv.b: Female PGR - sector comparison



Applications, offers and arrival

The percentage of women among PGR applicants in York has been about 25% (Fig. 4.1.iv.c).

Fig 4.1.iv.c: PGR Applications

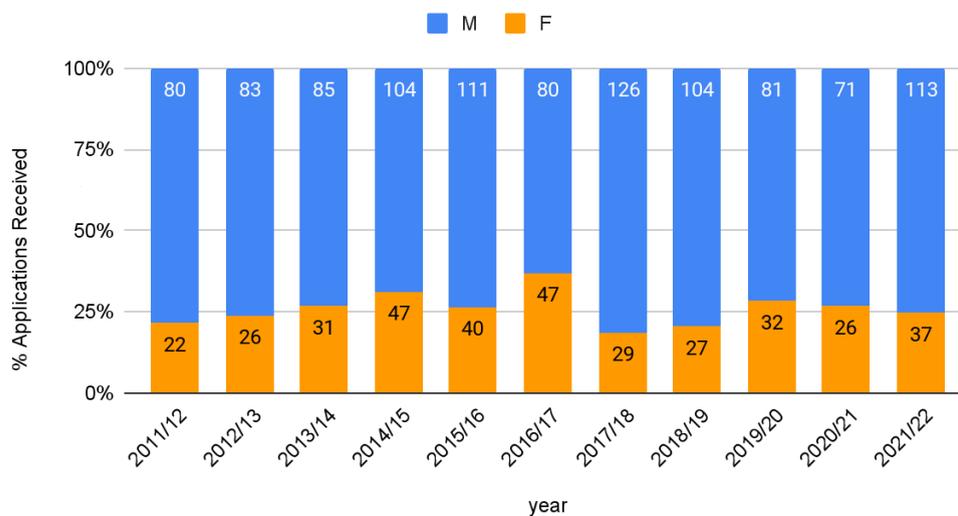


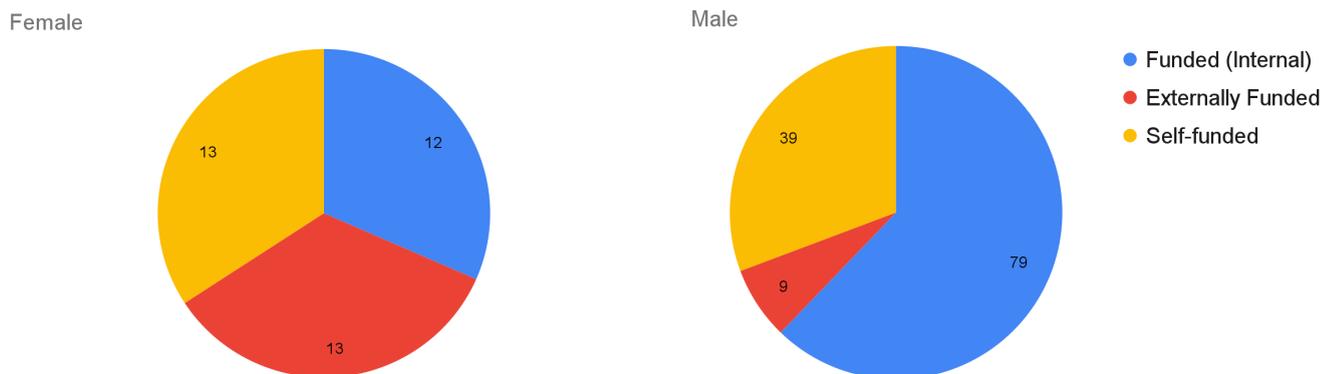
Table 4.1.iv.d contains offer headcounts by gender of PGR offers and starters by gender.

| | | 2011 /12 | 2012 /13 | 2013 /14 | 2014 /15 | 2015 /16 | 2016 /17 | 2017 /18 | 2018 /19 | 2019 /20 | 2020 /21 | 2021 /22 | 2022 /23 | total |
|---|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
| F | o | 10 | 10 | 17 | 20 | 17 | 19 | 12 | 7 | 7 | 6 | 12 | 9 | 146 |
| | a | 2 | 0 | 5 | 9 | 5 | 2 | 4 | 2 | 2 | 0 | 4 | 3 | 38 |
| M | o | 30 | 28 | 44 | 53 | 53 | 44 | 57 | 35 | 24 | 18 | 24 | 21 | 431 |
| | a | 9 | 10 | 8 | 9 | 16 | 6 | 16 | 11 | 12 | 12 | 8 | 9 | 126 |

Table 4.1.iv.d: PGR Offers(o) and PGR starters (a) by gender

Women are over-represented among externally funded arrivals and self-funded starting PGRs (Figure 4.1.iv.e). The over-representation of women among self-funded students is more problematic because it indicates we are not good at offering funding to women who seek it to study with us. Indeed, we typically make unfunded offers to more qualified candidates than we have funded places.

Figure 4.1.iv.e: Proportion of internally funded, externally funded and self funded starting PGRs, 2011-2022



PGRs are admitted to the department in three distinct, but not independent contests: home students who seek funding, international students who seek funding, and students who do not seek funding. Ranking is done within research groups and then aggregated in collective, evidenced discussion. For students who do not seek funding, admission depends on whether they are considered able to pursue a PhD and there is supervision capacity for them. Only a small fraction of funded places are

available to international students. As the same rules hold throughout the UK, strong female home candidates are sought-after and more likely to get a place at more prestigious institutions. In Section 4.2.iv we explain how we will help grow the number of female home PGR applicants (**Action 4.3**).

As well as funding constraints, PGR admission is further hampered by staff capacity, attempts at equality across research areas, and some funded studentships being reserved for staff with grants. In contrast, CDTs admit PGRs as a pool and match them with supervisors later, resulting in a more diverse student population. Currently, DoM lacks consensus on whether there are issues beyond the diversity of applicants, making it challenging to decide on admission procedure reforms.

In EGPCS 2018-22, 51 (=14F/37M/3PN) of 76 responses (=19F/49M/8PN) from PGRs agree that *“The department actively encourages applications from students of all genders; only three (=1F/1M/1PN) disagree and the rest were neutral.*

Degree attainment and withdrawal rates

From 2011/12 to 2021/22, 1F/1M PGRs failed to submit and 5F/10M PGRs withdrew. The male completion rate (88%), is higher than the *female* rate (78%). To improve the female PGRs completion rate, we aim to create an environment where women can thrive (**Actions 2.1, 2.3, 2.5, and 2.6**).

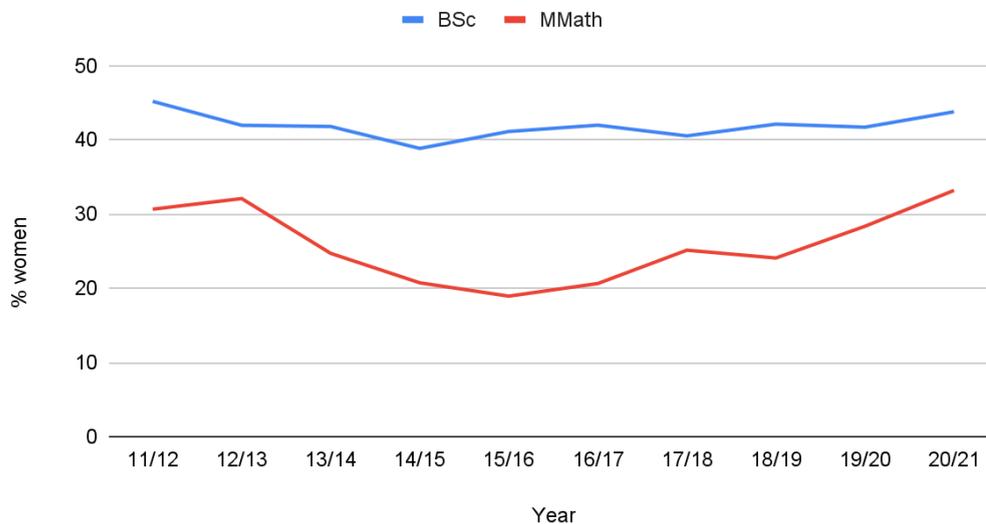
Between 2011/12 and 2021/22, 79M and 21F PGRs completed their theses. Since 2018, the best PhD thesis prizes have been awarded to 4F/4M, indicating over-representation of women among the prize winners.

(v) Progression pipeline between undergraduate and postgraduate student levels

Identify and comment on any issues in the pipeline between undergraduate and postgraduate degrees.

The proportion of female BSc students (Fig. 4.1.v) is stable at around 42%. After a drop to 20% in 2016/17, the proportion of female MMath students increased steadily to 33% in 2020/21.

Figure 4.1.v: UG enrolment in BSc and MMath



Having more strong students switching to the MMath should improve the proportion of female MMath students, and contribute to a larger pool of potential PGRs. In the past, we held a talk for Second year BSc students, with no significant effect. We plan to add a yearly email to all second-year BSc students with a first-class average following January exams, complementing the existing pastoral supervision conversation ([Action 4.2](#)).

The MSc programme *Mathematical Finance* enhances the F-PGT numbers but typically does not lead into a PhD.

PhD studies will be added to the supervision schedule at the end of the third year for MMath students, and the GRSC-chair will send out an email to all MMath students with an average of at least 75 to date suggesting they consider doing a PhD, and briefly describing the process, including the existence of funded places ([Action 4.3](#)). As well as a potential effect on the York PGR population, we will help enlarge the pool of PGR applicants at the national level, since our UG population has more women than average. We will start keeping track of our UGs (and PGTs) who apply for PGR places ([Action 4.3](#)).

York PGRs have joined the *Piscopia* initiative, which encourages women and non-binary people to pursue studying mathematics at higher levels with career events and seminars aimed at an undergraduate audience. First events were held in 2020/21, with EGPC support. The activities of *Piscopia* in York are advertised in the career activities weekly updates, in

the session for finalists on "Considering doing a masters or a PhD?", through MathSoc, the student ambassadors, and posters throughout the department.



Poster advertising a Piscopia event on the glass wall of the UG study space.

4.2. ACADEMIC AND RESEARCH STAFF DATA

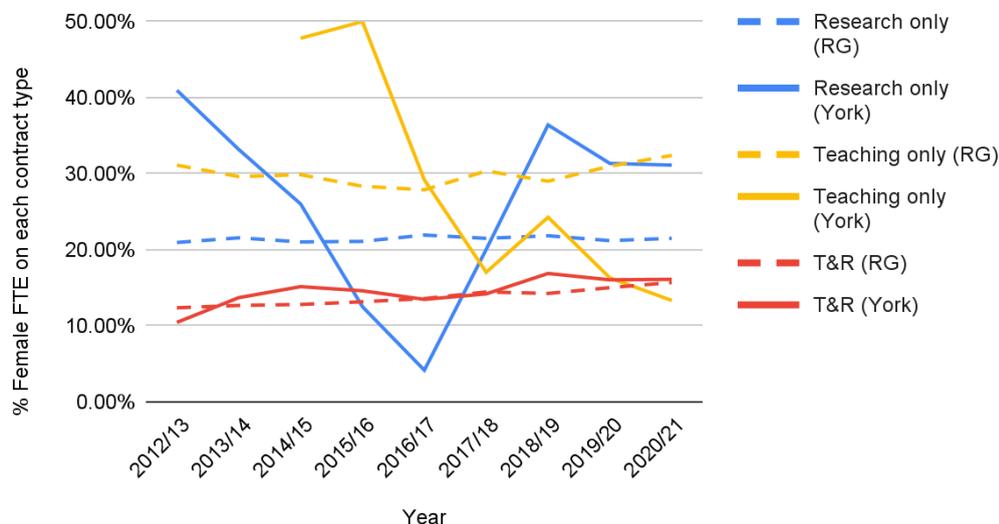
- (i) Academic staff by grade, contract function and gender: research-only, teaching and research or teaching-only

Look at the career pipeline and comment on and explain any differences between men and women. Identify any gender issues in the pipeline at particular grades/job type/academic contract type.

Sector comparison

Percentage of female staff on the more common R&T contracts is consistent with the Russell Group average (Fig 4.2.i.a). The small number of staff on Research-only and Teaching-only in York (Tables 4.2.i.b and 4.2.i.f) explain the noise.

Figure 4.2.i.a: Benchmarking by contract type



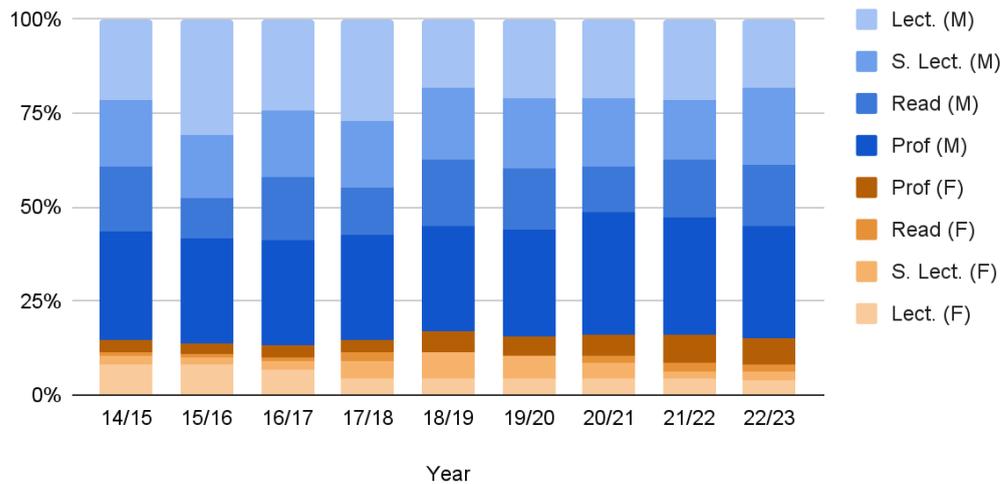
The department typically welcomes a small number of research-only staff (PDRA/Marie Curie fellows with FTCs) each year. Since 2013, the department has hosted 106.7FTE research-only staff, 25.5 of whom were female, so 24% (Table 4.2.i.b).

| academic staff: research only | Grade 6 | | Grade 7 | | Grade 8 & Marie Curie | |
|----------------------------------|---------|------|---------|-----|-----------------------|-----|
| | F | M | F | M | F | M |
| 2013/14 | 5.0 | 5.3 | | | | 1.0 |
| 2014/15 | 3.0 | 7.5 | | | | 1.0 |
| 2015/16 | 1.0 | 6.0 | | 0.5 | | 1.0 |
| 2016/17 | 0.5 | 12.0 | | 0.5 | | 1.0 |
| 2017/18 | 2.5 | 10.7 | | 1.0 | 1.0 | 1.0 |
| 2018/19 | 2.5 | 6.7 | | 1.0 | 1.0 | |
| 2019/20 | 3.0 | 5.0 | | 2.0 | 1.0 | 1.0 |
| 2020/21 | 3.0 | 5.0 | | 2.0 | 1.0 | |
| 2021/22 | 1.0 | 8.0 | | 2.0 | | |
| 2022/23 | 1.0 | 10.0 | | 1.0 | | |

Table 4.2.i.b: Research-only staff by gender (FTE)

Among R&T staff, women are consistently underrepresented at all grades (Fig. 4.2.i.c).

Figure 4.2.i.c: Academic Staff (Research and Teaching) by grade



On average over 9 years, the proportion of Lecturer/Senior Lecturer among women (59.3%) is larger than among men (47.9%) (Figures 4.2.i.d,4.2.i.e), but the proportion of professors among women is increasing (Figure 4.2.i.c).

Figure 4.2.i.d: Female Academic Staff (9 year average)

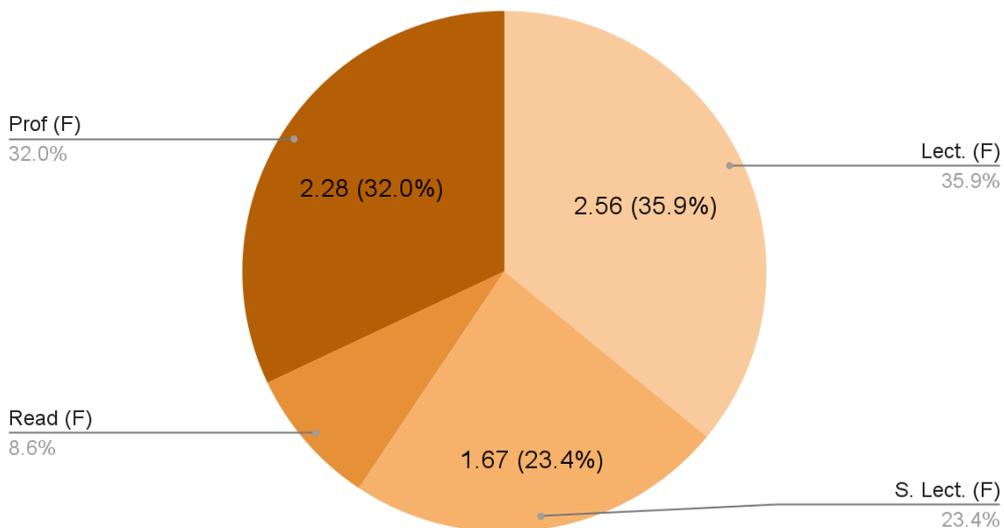
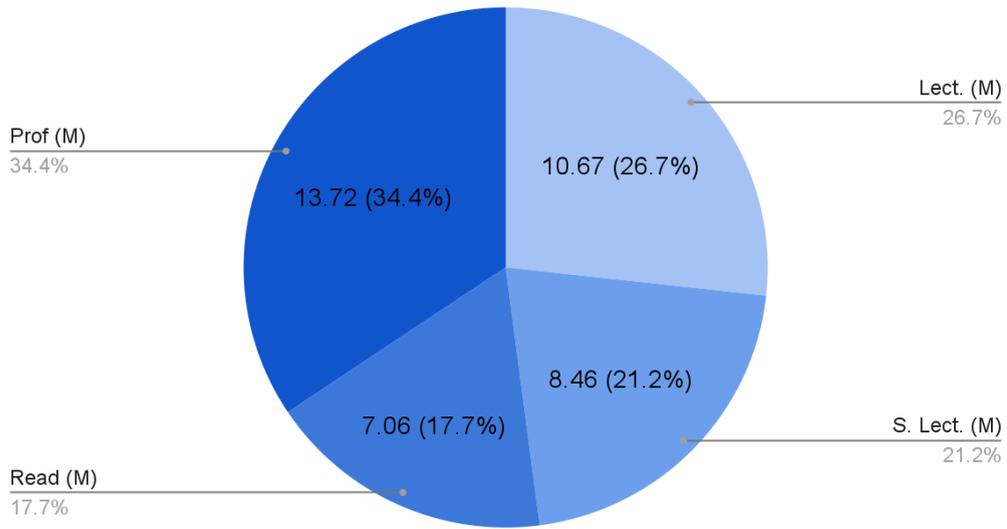


Figure 4.2.i.e: Male Academic Staff (9 year average)



Since 2013, the department has hosted 31FTE teaching-only staff on FTC, with 8FTE female staff, so that the proportion of women is 26%, very similar to the proportion in the research-only staff (Table 4.2.i.f).

| Academic Staff: Teaching-only | Associate Lecturer (Gr 6) | | Lecturer (Gr 7) | |
|----------------------------------|------------------------------|-----|--------------------|---|
| | F | M | F | M |
| 2013/14 | 1 | 1 | | |
| 2014/15 | 1 | 1 | | |
| 2015/16 | 1 | 1 | | |
| 2016/17 | | 1 | | 1 |
| 2017/18 | 1 | 1 | | |
| 2018/19 | | 1.5 | 1 | 2 |
| 2019/20 | | 2.5 | 1 | 2 |
| 2020/21 | | 1.5 | 1 | 2 |
| 2021/22 | 1 | 3.5 | | 2 |

Table 4.2.i.f: Teaching-only staff by gender and grade (FTE)

Making gender equality a central part of our department's culture (**Actions 1.1-1.3**) and making our department an environment where women can

thrive (**Actions 2.1-2.6**) will help attract prospective new, and retain existing, female staff.

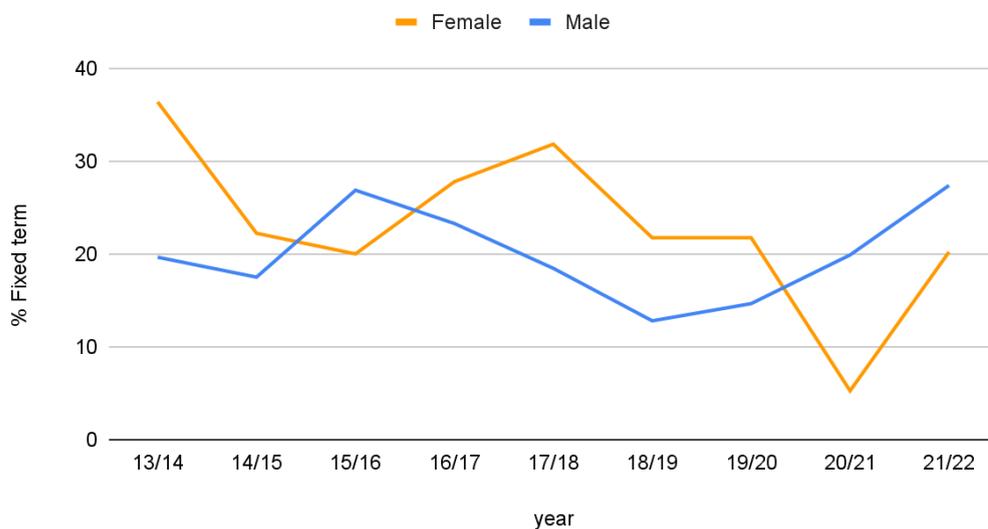
- (ii) Academic and research staff by grade on fixed-term, open-ended/permanent and zero-hour contracts by gender

Comment on the proportions of men and women on these contracts. Comment on what is being done to ensure continuity of employment and to address any other issues, including redeployment schemes.

No staff are employed on zero-hour contracts. Furthermore PGRs working as GTAs are now generally not on zero-hour contracts. All R&T staff have open-ended contracts (comments on proportions across grades in Sec. 4.2.i). No staff at Grade 8 (Senior Lecturer) hold fixed-term positions.

The proportion of female R/R&T/T staff on fixed term contracts has gone down since 2013/14 (Fig. 4.2.ii.a). For male staff, the proportion is roughly stable.

Fig 4.2.ii.a: Proportion of R/T&R/T staff on fixed term contracts



Staff on fixed-term contracts are Grant-funded PDRAs or Teaching staff at Grades 6/7 (Table 4.2.ii.a). Permanent employment in York is not automatic after a grant or initial contract ends. There are several examples of staff securing further funding after one grant has finished, and using University funding to bridge between grants. Several York PDRAs have successfully transitioned into permanent jobs (here and elsewhere), indicating that our ECR support is successful. As further support, we plan to introduce an academic job application seminar for advanced PGRs, PDRAs and temporary teaching staff, with a panel including at least one woman (**Action 3.4**).

| Staff by contract type | Grade 6 FTC | | Grade 6 open | | Grade 7 FTC | | Grade 7 open | |
|------------------------|-------------|-----|--------------|-----|-------------|---|--------------|-----|
| | F | M | F | M | F | M | F | M |
| 2012/13 | 5 | 4.8 | | 0.5 | | | 3.5 | 9.9 |
| 2013/14 | 4 | 9 | | 1 | | 2 | 4 | 9 |
| 2014/15 | 2 | 8 | | | | 2 | 4 | 12 |
| 2015/16 | 2 | 14 | | | | 1 | 3 | 11 |
| 2016/17 | 3 | 12 | | | | 1 | 2 | 13 |
| 2017/18 | 4 | 8 | | | | 1 | 2 | 10 |
| 2018/19 | 3 | 6 | 1 | 1 | | 1 | 3 | 13 |
| 2019/20 | 3 | 7 | 1 | 1 | | 1 | 3 | 13 |
| 2020/21 | 1 | 9 | 1 | 1 | | 1 | 3 | 13 |
| 2021/22 | 2 | 13 | | 3 | | 1 | 2 | 11 |

Table 4.2.ii.b: Staff by contract type and gender in grade 6 and 7 (FTE)

(iii) Academic leavers by grade and gender and full/part-time status

Comment on the reasons academic staff leave the department, any differences by gender and the mechanisms for collecting this data.

From 2013-2022, 5 academics (1F/4M) on open-ended **full-time** contracts resigned (20%F/80%M) and 4 professors (4M) retired (Table 4.2.iii.a). In addition, 1F on a **part-time** open-ended contract left.

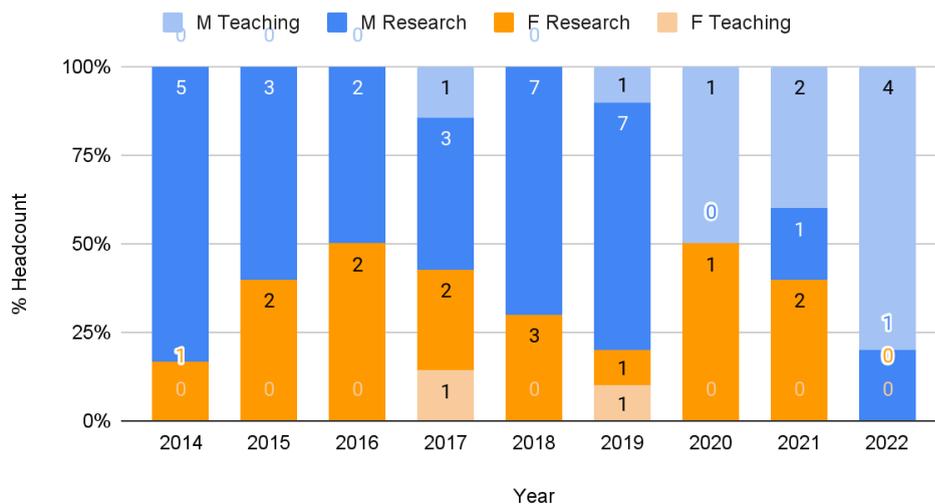
Most leavers went for posts abroad, closer to family or in their home country. HR sends out exit questionnaires and the HoD invites leavers to informal interviews (uptake is low).

| Open ended contracts (FT) | Lecturer (Grade 7) | | S. Lecturer (Grade 8) | | Professor | |
|---------------------------|--------------------|---|-----------------------|---|-----------|---|
| | F | M | F | M | F | M |
| 2014 | | | | | | 1 |
| 2015 | | | | | | |
| 2016 | 1 | | | 1 | | 1 |
| 2017 | | | | | | 1 |
| 2018 | 1 | 1 | | | | 1 |
| 2019 | | 1 | | | | |
| 2020 | | | | | | |
| 2021 | | | | | | |
| 2022 | 1 | | | | | 1 |

Table 4.2.iii.a: Academic leavers by gender (headcount)

Most staff on FTEs (PDRAs/Teaching Fellows, 20%F/80%M) left because grants ran out; there are no immediate continuation opportunities (Fig. 4.2.iii.b). However, five former PDRAs (2F/3M) have returned since 2001, now occupying permanent positions: a Marie-Curie fellow (F) came back as research fellow and is now Professor, as is a recipient of a Royal Society URF, which was held at the department.

Fig. 4.2.iii.b Leavers- Fixed Term Contracts



5. SUPPORTING AND ADVANCING WOMEN’S CAREERS [7250 WORDS]

Recommended word count: Bronze: 6000 words | Silver: 6500 words

5.1. KEY CAREER TRANSITION POINTS: ACADEMIC STAFF

(i) Recruitment

Break down data by gender and grade for applications to academic posts including shortlisted candidates, offer and acceptance rates. Comment on how the department’s recruitment processes ensure that women (and men where there is an underrepresentation in numbers) are encouraged to apply.

Twelve (18%) of 66 R/R&T staff appointed from 2011/22 to 2021/22 were female (Table 5.1.i). The disparity is largely at the application stage since there were only 18% female applicants. F/M-proportions shortlisted for interviews are practically equal (22%F/23%M). Among interviewees, slightly fewer men were offered jobs and subsequently appointed (22%F/19%M), with acceptance rates almost 100%. On average, 4.8% of 248F applicants (4.9% of 1112M) were appointed, resulting in balanced arrival rates. The main concern remains the low proportion of female applicants.

| F/M data (2%PN omitted) | PDRA (Grade 6) | | L only (Grade 7) | | L/SL/R (Grade 7/ 8) | | totals | |
|---|-------------------|----------|---------------------|----------|------------------------|----------|------------|------------|
| | F | M | F | M | F | M | F | M |
| applications | 93 | 407 | 110 | 537 | 11 | 47 | 248 | 1112 |
| shortlisted applicants | 24 | 148 | 20 | 74 | 2 | 12 | 56 | 255 |
| appointments | 3 | 37 | 6 | 11 | 0 | 2 | 12 | 54 |
| averages | | | | | | | | |
| % of applications | 18 | 83 | 17 | 81 | 70 | 29 | 18 | 81 |
| % of shortlisted applications among applications | 25 | 36 | 18 | 13 | 0.18 | 26 | 22 | 23 |
| % of interviewees appointed | 8 | 25 | 3 | 14 | 0 | 17 | 22 | 19 |
| arrival rates (%) | 3 | 8 | 5 | 2 | 0 | 4 | 4.8 | 4.9 |

Table 5.1.i: Recruitment data for academic staff from 2011/12 to 2021/22 inclusively- F/M only; 2%PN left out for clarity.

To highlight our commitment to creating a culture and environment where women can thrive, departmental job adverts include the AS logo, express commitment to EDI, and mention flexible-working/job-sharing options (if feasible). The *AS Bronze Award* logo features on the departmental home page.

Interview panels typically include at least one woman (always for permanent positions); panel duties are counted in the workload model. Panel chairs for permanent positions must complete the *Recruitment and Selection* training covering unconscious bias. Online interviews are always an option.

By building a culture (**Actions 1.1-1.3**) and environment where women can thrive (**Actions 2.1-2.6**), we will make the department more attractive to potential female applicants. Supporting the careers of our ECRs and PGRs (**Actions 2.3 and 3.4**) should contribute to more women applying for academic positions across the sector.

(ii) Induction

Describe the induction and support provided to all new academic staff at all levels. Comment on the uptake of this and how its effectiveness is reviewed.

New staff have welcome meetings with HoD/HoS and the Research Support Team, and they are formally introduced at the first *Staff Meeting* they attend. They are sent a welcome email, a copy of the *Staff Handbook*, details about health and safety/training/IT support and the probation procedure.

New lecturers typically work towards a *PG-Certificate in Academic Practice*. This time is accounted for in the workload model, resulting in a reduced teaching/administrative load, ensuring that they settle into the department. Attending suitable training courses (grant-writing/PhD supervision) is encouraged; this also applies to PDRAs and other ECRs.

New staff are assigned a mentor for two years, providing advice on teaching practices (e.g. exam preparation/project supervision) and research activities. Mentoring is included in the workload model.

Lecturer (M): *“The mentor showed me the details of the modules and also observed a couple of my lectures. The detailed comments helped to improve my teaching a lot.”*

Annual peer observation during lectures can be particularly valuable to staff new to teaching. Good practice is recorded and reviewed by DTC. Observations highlight teaching excellence and support applications for teaching awards, while also identifying staff suitable for outreach activities.

Although we have not consistently kept good records of engagement with induction activities, we have held occasional focus groups on this topic. We plan to continue running focus groups for staff and ECRs, including specific groups with women (**Action 2.6**), to better understand the effectiveness of these activities.

Lecturer (F): *“Near the end of my first year in York, I was invited to take part in a focus group to discuss my recruitment and induction experience. I was very happy that my displeasure at the “Promotion seminar” clashing with an immediately useful induction activity was heard, and the following year such a clash was avoided.”*

PDRA (F): *Department induction was useful and timely. Central university induction courses were fully booked up until 4 months after I started so were not as beneficial as they could have been had they taken place right at the start. A former Daphne Jackson Fellow in the Department acted as an unofficial mentor to me, sharing her experience of returning to work in research and juggling childcare/part-time working. Academic mentorship was provided by my line managers. Workload was appropriate and manageable.*

(iii) Promotion

Provide data on staff applying for promotion and comment on applications and success rates by gender, grade and full- and part-time status. Comment on how staff are encouraged and supported through the process.

Promotion criteria are set by the University, with maternity breaks and other leave of absence considered. The department supports applications for promotion by making career development a focus of the annual mandatory performance review.

Professor (F): *“In recent years, the annual performance review has developed into a process that is both supportive and challenging. Formerly, it was a tick-box exercise, but now it is an opportunity to analyse the past year, discuss hopes and plans for the future, and agree on challenges for the coming year, all with a senior member of the department.”*

In the past, well ahead of the deadline for promotion applications, the HoD hosted a seminar to explain the promotion process, however this has lapsed recently. 22 of 23 respondents (4F/19M) agree/slightly agree that they “understand the departmental promotion procedure”; 1M is “not sure” (EGPCCS2021), indicating that the seminar was useful, and should be reintroduced in some form.

We will invite University HR (or an academic involved in the promotions process) to a staff meeting to explain the University’s process, followed by a panel with DoM staff with recent experience (of both application and panels) (**Action 3.3**). Sharing online HR materials and promoting mentoring/coaching schemes will support career progression for all.

After securing a permanent position, a female professor recalls that she “was not concerned with applying for promotion. I was encouraged to apply in my annual performance review. My reviewer was quite insistent that I should apply for a Readership rather than for promotion to Senior Lecturer. I was very unsure about this, but he was extremely helpful, reading through my application and making suggestions.”

This motivates the third priority of our action plan: supporting women’s careers at all stages in the department. We want to ensure that all staff understand the promotions process and receive support for every aspect of the application (**Action 3.3**).

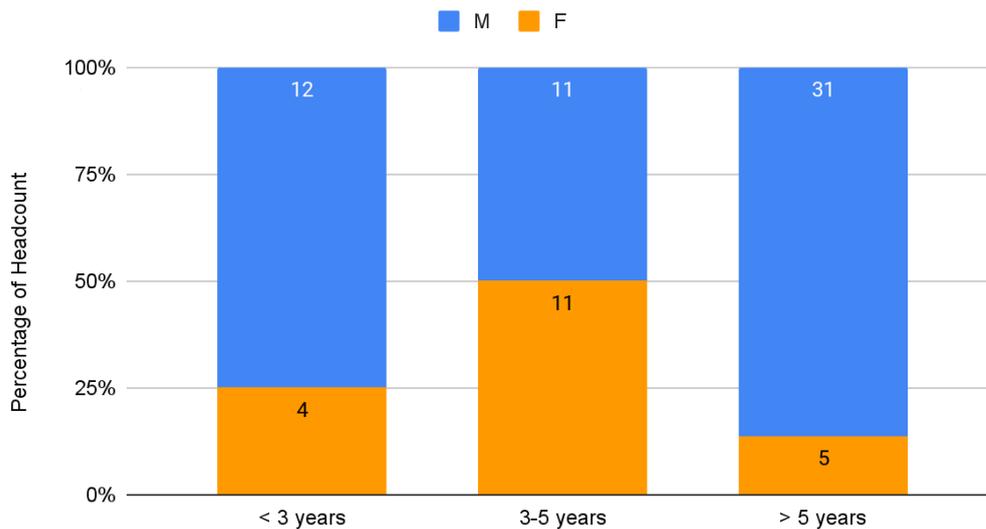
From 2011 to 2022, 6F/37M DoM staff applied for promotion (14%F) (Table 5.1.iii.a). 5F/32M were successful, giving success rates of 84%F/65%M.

| | Promotion Outcome | | | | | | | |
|------|-------------------|---|---|---|----|---|--------------|---|
| | SL | | R | | Pr | | Unsuccessful | |
| | F | M | F | M | F | M | F | M |
| 2022 | | 2 | | | | | | 2 |
| 2021 | | | | 1 | 1 | 2 | | |
| 2020 | | | 1 | | | 2 | | |
| 2019 | | | 1 | | | 2 | | 2 |
| 2018 | | | | | | | | |
| 2017 | 1 | 2 | | 3 | 1 | 1 | | 2 |
| 2016 | | | | | | 1 | | |
| 2015 | | 1 | | 1 | | | | 1 |
| 2014 | | | | | | | 1 | 4 |
| 2013 | | 3 | 1 | 2 | | 1 | | 1 |
| 2012 | | 1 | | | | 2 | | 1 |
| 2011 | 1 | 2 | 1 | | | | | |

Table 5.1.iii.a: Promotion applications by gender (headcounts), SL/R/Pr= Senior Lecturer/Reader/Professor

The percentages of staff on the same grade for specific periods of time (Fig. 5.1.iii.b) vary considerably. The proportion of women among the 35 staff not promoted during the last five years sits at 14%, corresponding to the overall proportion of women.

Fig. 5.1.iii.b Length of Time on Current Grade (2021/22)



(iv) Department submissions to the Research Excellence Framework (REF)

Provide data on the staff, by gender, submitted to REF versus those that were eligible. Compare this to the data for the Research Assessment Exercise 2008. Comment on any gender imbalances identified.

All RAE2008 eligible staff were submitted (3F/35M). Research expectations were formulated to prepare future evaluations.

For REF2014, 4F/27M were submitted out of 6F/37M, giving submission rates of 66% for women and 73% for men. It is difficult to comment on the difference in rates because of the small number of eligible women.

All REF2020 eligible staff were submitted (8F/40M), with an average of 2.4 publications per person for women and 2.5 per person for men. The department's application included 4 impact cases involving 5 different academic staff (2F/3M) and 10 PDRA's (1F/9M). One impact case was led by 2 men, one by 1F/1M and the remaining two were led by the same female staff member. This over-representation of women and over-reliance on the same person (F) was noted in DMT. It was decided: that work required to build impact cases should be better credited in the workload model; that other members of staff should be encouraged to contribute; and we should change our departmental culture so that contributions to impact are better valued. Resulting changes to the workload model were announced in the following staff meeting.

5.2. KEY CAREER TRANSITION POINTS: PROFESSIONAL AND SUPPORT STAFF

5.3. CAREER DEVELOPMENT: ACADEMIC STAFF

(i) Training

Describe the training available to staff at all levels in the department. Provide details of uptake by gender and how existing staff are kept up to date with training. How is its effectiveness monitored and developed in response to levels of uptake and evaluation?

The University provides comprehensive training through our 'Building Research and Innovation Capacity Team' and Library. Alongside mandatory courses on unconscious bias, there are broad programmes on Professional Development & Employability; Partnerships, Collaborations & Civic Engagement; Public Engagement & Communication; Research Management & Leadership; and Community & Wellbeing. Whilst these courses are accessible and encouraged for all academics, DoM also provides support at different levels in several ways.

Specific training for researchers can be found on the Research Wiki with information about funding, leave, publishing, EDI and training. For ECRs, we have a tailored package that identifies their needs and matches them with suitable training opportunities within and outside the university.

Staff and PGRs receive a weekly newsletter and are supported by the Research Support Team, which sends targeted information to individuals based on suitability and level of training, e.g. opportunities for writing bootcamps, early career opportunities etc.

The EDI section on the Research Wiki promotes equality and diversity at conferences, and fosters collaboration in research amongst female colleagues.

In the 2017 UoYES, (no F/M split provided) 72% (vs. 65% UoY-wide) said that they took part "*in continual professional development activity paid for/provided by the University*"; activities include visits to conferences, essential for academic career development (cf. Sec. 5.3 (iii)).

(ii) Appraisal/development review

Describe current appraisal/development review schemes for staff at all levels, including postdoctoral researchers and provide data on uptake by gender. Provide details of any appraisal/review training offered and the uptake of this, as well as staff feedback about the process.

Staff have a mandatory annual performance review (PR). The format is prescribed by UoY, but DMT used flexibility of the framework to make PR a forward-looking exercise, emphasising career development. Appraisal and support are not limited to PRs: according to the UoYES2017, 74% of DoM-staff have relevant discussions "*sometimes/frequently*" on other occasions.

Section heads conduct PRs for academics in their sections. The HoD conducts PRs for professors and probationary staff, while PDRAs undergo reviews with their PIs. Heads of Section/Department are trained to conduct PRs while not all PIs are.

In the EGPC2014 survey, only 43%F and 54%M staff found the UoY format for PRs useful. Staff members were more positive about the format revised by the DoM: only three staff did *not* find it useful in 2015. This view was confirmed (UoYES2017, no F/M split) when 69% of the respondents “*value[d] the opportunity to have a performance review*” and 71% found it “*useful to me in reviewing my strengths and achievements*”. In the EGPCS2021, 2F (of 4) and 12M (of 18) agree that the PR “*values research, teaching, service and outreach;*” the remaining respondents slightly agree (17%) while 20% are “*not sure.*”

Professor (F): “*The department supported me in navigating the academic stages from Lecturer to Professor, by helping me to objectively review the activities that truly counted both for the department and for my academic profile.*”

We plan to discuss PRs in focus groups (**Action 2.6**) to better understand experiences of reviewees, picking up on any differences between the experiences of men and women.

(iii) Support given to academic staff for career progression

Comment and reflect on support given to academic staff, especially postdoctoral researchers, to assist in their career progression.

73% of staff “*believe there is a clear career path available*” to them at UoY (UoYES2017; no F/M split); 75% of both F and M staff “*agree/slightly agree*” that they are “*actively encouraged to take up career development opportunities*” (EGPCS2021). Academic staff see their line managers in a positive light since “*they provide me with help and support to do my job effectively*” (2011: 57%; 2014: 94%; 2017: 84%), a likely consequence of the DoM’s review of PRs.

According to the EGPCS2021, 75%F/77%M of staff agree/slightly agree, that they are “*actively encouraged to take up career development opportunities.*” Agreement increases by about 10% for both genders when asked about opportunities to “*represent the DoM on committees or as a speaker at conferences.*”

Research is important for career progression of academics on R&T contracts. The DoM encourages staff to take research leave, granted for one out of nine terms. Over the past six years, all requests were granted

(Table 5.3.iii). Research leave taken by F/M staff reflects their proportions in the department.

| | 2015/ 16 | 2016/ 17 | 2017/ 18 | 2018/ 19 | 2019/ 20 | 2020/ 21 | 2021/ 22 | average |
|----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|
| F | 0 | 1 | 1 | 2 | 1 | 3 | 2 | 17% |
| M | 5 | 6 | 6 | 7 | 8 | 11 | 5 | 83% |

Table 5.3.iii: Research leave taken by gender (# of terms)

The *Collaborative Research Exchanges Scheme* (run by DRC) enables staff to maintain/initiate research activities with external collaborators. By funding external visitors, the scheme benefits staff who are unable to travel (e.g. due to care commitments); uptake from 2018 to 2022 was 9F/29M.

Academic staff and PDRAs can use departmental travel funds for conferences or research visits; F/M uptake is in line with gender proportions. New staff have ring-fenced allowances. Funds to organise workshops/develop impact are also available; support for underrepresented groups must now be considered when applying. The overwhelming majority of requests are accommodated.

The departmental RF supports the development of research grants at all stages (cf. Sec. 5.3 (v)).

PDRAs and other Early-Career Researchers (ECRs) are encouraged to attend training provided by the *Building Research and Innovation Capacity Team* of the university. Furthermore, UoY has signed up to the *Concordat to Support the Career Development of Researchers*. One PDRA represented the department on the *EPSRC Mathematical-Sciences Early Career Forum*, aimed at young mathematicians to develop strategic influence. The departmental *ECR Forum*, run by the RF, provides networking opportunities, and advises on professional and career development. Regular newsletters and meetings ensure continued support. DoM hosted over 50 PDRAS during the last REF period, and over 90% went on to further academic positions.

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

Comment and reflect on support given to students at any level to enable them to make informed decisions about their career (including the transition to a sustainable academic career).

Six UG supervision meetings are held each year for students to reflect upon their academic progress and career paths. The *Supervisors' Handbook* lists the purpose of meetings, in sync with the students' stage. The UG degree programmes were revised in 2017/18 to provide students with essential non-academic skills such as writing a CV/personal statement. Recent changes triggered by semesterisation will see all of our students complete the "York Strengths" programme in their first year.

Department of Mathematics University of York Undergraduate Supervision Guide

Introduction

Every undergraduate is assigned a member of staff as his or her supervisor, normally for the entire period of their degree.

The supervisor's primary role, to quote the University, "is in relation to academic matters, but the supervisor also supports students in their personal development and well-being and in the understanding and development of the skills that underpin success in and beyond their work at University." <https://www.york.ac.uk/staff/teaching/themes/supervisor/>

In addition to the material included in this Handbook, the Department's Undergraduate

Student Handbook contains much information that supervisors will find useful.

<http://maths.york.ac.uk/intranet/UgradHandbook>

An annual schedule of supervision meetings appears at the end of this guide.

The Role of the Supervisor

- You are likely to be your supervisee's first point of contact for academic and pastoral help and advice. This should enable them to settle into life at York more easily and become more secure and engaged in their studies. This, in turn, can encourage better academic results earlier.
- By maintaining an overview of personal and academic progress, you will be able to spot issues or problems and provide timely advice or signpost students to other services. This will hopefully mean students will be more likely to present earlier with any problems. This should improve student retention rates and help students achieve the best results they can.
- By following up on recommendations made in previous sessions, students will feel encouraged and supported to make improvements in their studies or their personal circumstances.
- Through your regular encouragement to work hard, develop further skills and explore non-academic activities, students are more likely to achieve their full potential – leading to better results and greater

Snapshot of the Undergraduate Supervision Guide

Students who engage poorly with their course (as well as students who failed Year 1 and decided to repeat it) must attend additional meetings.

The role of First-Year Transition Officer was created in Autumn 2019 to support students with transition to University. Weekly optional activities help students to discover their strengths, and regular timetabled First-Year Drop-In-Sessions with the officer, students and (paid) PGRs provide help.

In 2017, DoM created a study space for MMath and PGTs, named after *Dusa McDuff*, a former York lecturer, and now widely known mathematician (FRS, Fellow of the *Association of Women in Mathematics*, the first female LMS *Hardy* Lecturer, awardee of the RS's *Sylvester Medal*). Within a year, 44% of respondents to the EGPC2018 survey considered the space to be "important", some even "a blessing". The room creates a "community feel" not necessarily encountered in other departments. One third of respondents knew who McDuff is.



Dusa McDuff Room: social and study space, bookcase with mathematics books, and sign about the entrance identifying the room

In 2019, DoM created a large dedicated *Undergraduate study-space*, responding to student requests:

Final-year UG 2018/M: “*Undergrad study space would be nice.*”



Students in the undergraduate study space

The room acts as a space for UG events/drop-in sessions and immediately became very popular:

Final-year UG 2020/F: *“It’s a great space to collaborate with other students, seek advice from older students/MathSTYCs/graduate tutors, or to work individually on assignments.”*

Information about careers fairs on campus and national job and internship opportunities is distributed weekly by the departmental Careers Officer via the Careers and Jobs VLE Forum. A weekly Maths Student Digest is sent to UGs, including exam information and links to academic and pastoral support on the DoM’s Welfare Resources database.

The DoM’s annual UG-Career Kick features a Q&A panel with employers and talks by York Staff and students. The 2022/23 event involved 3F/2M employers, 5F/1M UGs, 2F PGRs and 1F/3M staff. Financial and logistic support is available to students who wish to attend or organise student-run conferences.

Final-Year UG 2021/M: *“I have really enjoyed studying maths at York and the department has always been welcoming of my disability.”*

Final-Year UG 2021/F: *“Really enjoyed being a student in the maths department, I’ve always felt included.”*

DoM encourages students to use the anonymous Student Suggestion Form. Suggestions and responses are published online.

In their first week at the DoM, new PGRs research mini-projects led by academics and present their findings in short talks open to all. No formal mentoring system between junior and senior PGRs exists. There are no plans to set one up, however student feedback suggests informal mentoring is taking place.

All PGRs have a *Thesis Advisory Panel* -supervisor plus two academics- that support them throughout their studies. Meeting twice a year, the panel oversees the student’s progress and advises on academic matters, career development, teaching, visits to summer schools/workshops, the search for postdoctoral positions or other employment. The panel (without supervisor) takes progression decisions, based on oral and written reports by the student, and gives the student an opportunity to reflect on their supervision and/or raise any concerns. PGRs must attend BRIC training courses on *Research Integrity* and on *Being an Effective Researcher*.

At the annual *Graduate Symposium*, Yr-2 PGRs present their research to peers and staff. Prizes are awarded to the best talks. Experienced researchers give presentations on research strategies, applications and job interviews. They also explain what to expect at the viva, the final exam of the PhD programme.

PGRs are supported by DoM to attend regional, national and international meetings, presenting posters or talks to help prepare for future careers in academia. The long-standing student-owned *Graduate Seminar* represents a safe space to practise presentation skills; no staff attend.

More events for Early Career researchers are advertised on the internal Research Wiki and Weekly Research Newsletter, which include resources about funding, leave, publishing, training, EDI, and early researchers training and a section specifically devoted to promoting gender equality and diversity. The University has signed up to the Concordat to Support the Career Development of Researchers which includes 10 days per year of career development training, supported by the BRIC team.

The DoM is acutely aware that PGR funding is often limited to 36 months while a PhD in mathematics typically takes 42 months. All PGRs are offered paid jobs as UG seminar leaders (unless a teaching role is already part of their funding) providing important teaching experience.

Averaged over four EGPC-surveys 2018-21, 80% of female PGRs think that gender plays no role *“to become involved in teaching undergraduates”* compared with 92% of male PGRs. A small number of students (both M/F) think that women are preferred. Nearly identical percentages (88%F/85%M) said that they *“intend to pursue a career in a STEM field”*, after completion of their PhD.

(v) [Support offered to those applying for research grant applications](#)

[Comment and reflect on support given to staff who apply for funding and what support is offered to those who are unsuccessful.](#)

A dedicated Research Support Team provides one-to-one support, by identifying suitable funding opportunities, helping with development of proposals and advising on University approval processes. The Maths Research Team is part of a wider community of research support colleagues so can bring best practice into the department to inform our approach. The Maths Team: maintains a database of past applications; informs Maths section leads of ongoing bids; and awards, and reaches out to academics who may need support to get the bid through its final stages. This includes specialist support for early career researchers writing their first grants, from those who have previously been successful.

The Department has an established peer-review programme. With the support of the RF, two suitable academic colleagues are identified to work with the grant writer by providing constructive criticism. This process is designed to be flexible, allowing the writer to share their proposal at least a month before the submission deadline so feedback can be acted upon in a timely manner; this enables a decision to be made to redraft the bid for a

later deadline if needed. Support continues once the proposal has been submitted, including support from the DRC Chair/RF to help draft responses to comments from funders reviewers. The DRC Chair/RF help unsuccessful applicants identify potential reasons for the outcome, and importantly, support the applicant in their next steps, e.g. identifying potential alternative funding, applying any lessons learned.

Outside DoM, *Research and Innovation Development Managers* from the UoY's *Research, Innovation and Knowledge Exchange team (RIKE)* help develop interdisciplinary opportunities while the *Business Development Working Group* has expertise in establishing links with industry.

Early Career Researchers and Fellowships: The department runs a dedicated scheme to support ECRs wishing to apply for fellowships at York. Week-long visits from applicants are funded to develop their applications with a staff member, leading to a noticeable increase in ECR numbers. Since 2016, the DoM has welcomed *Marie Skłodowska-Curie* (2F/2M), *Royal Society University Research* (2M) and *Newton International* (1M) fellows as well as two female fellows of the *Schlumberger Foundation's Faculty for the Future*. The Schlumberger Foundation supports women in STEM disciplines from developing and emerging countries, to “*generate conditions that result in more women pursuing scientific careers [...] thus reducing the gender gap.*”). New staff are immediately supported in writing grant applications. Since 2016, six new staff have applied to the *EPSRC First Grant/New Investigator scheme* (2F/4M), with successes for half (1F/2M) in line with the success rate of 45% in the last 6 panels.

The DoM also supported an *EPSRC Early-Career Fellowship holder* (1M), *Leverhulme Trust Early Career Fellow* (1M), a holder of a *Royal Commission for the Exhibition of 1851 Fellowship* (1M), four recent *London Mathematical Society Early Career Fellowships* (3M, 1F), and *Daphne Jackson Trust Fellowship holders* (2F).

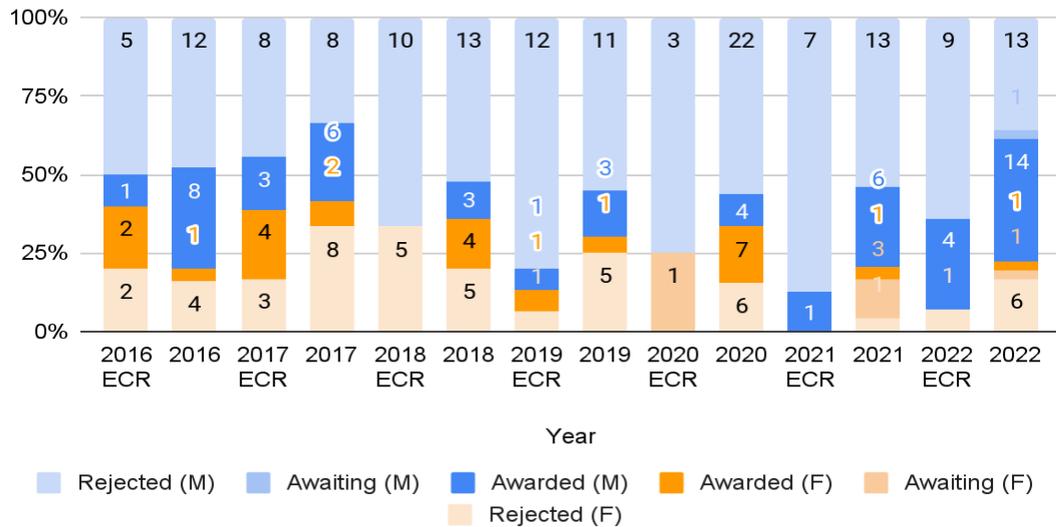
Daphne Jackson Trust fellowships support people with a career break of at least 2 years to return to research. They are part-time, facilitating the transition back into research while balancing family responsibilities. After her fellowship ended, one *Daphne Jackson Trust* fellow was supported by her supervisor and the Research Support Team in applying for an *EPSRC Impact Accelerator Account Researcher Mobility Grant* to continue her career. Later on, she became a *Knowledge Transfer Partnership Associate* on a project led by her supervisor, and went on to a permanent position with the industrial partner. The other Daphne Jackson Trust fellow was supported in securing additional funding to continue work as a PDRA in DoM.

Since 2017, 2F/3M ECRs were named on five grant proposals submitted by staff. While at York and supported accordingly, one ECR (1M) was awarded an *EPSRC Postdoctoral Fellowship* to do research at another UK institution.

Five former PDRAs (2F/3M) have returned to become permanent staff, one of them first visited as a *Marie-Curie Fellow (F)*, later returned with a *Royal Society URF* and is now a professor.

Fig. 5.3.v.a shows information about large departmental grant applications with a York lead (2018-22), made by staff and ECRs on fixed-term contracts (ECR-F/M, respectively).

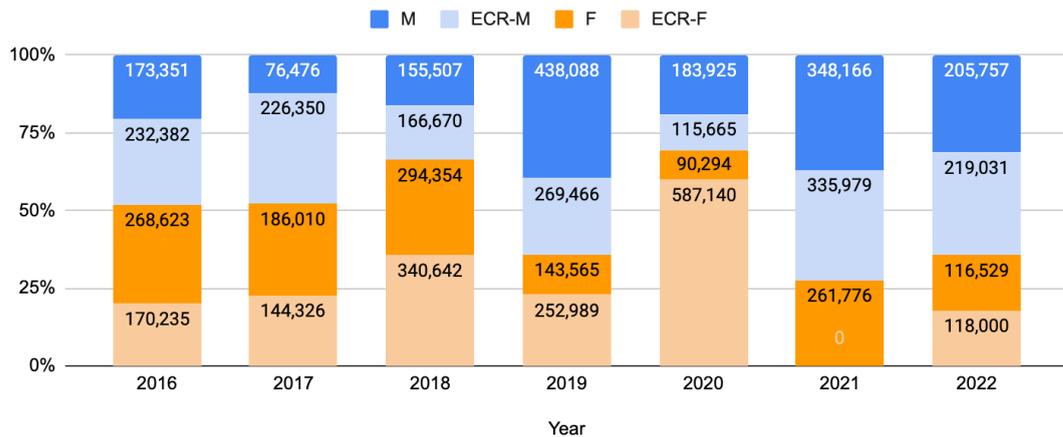
Fig 5.3.v.a Percentage of Grant Applications



Over a six-year period, female academics submitted 31% of all applications while not exceeding 20% of staff. With 27%, the percentage of applications by female ECRs is also disproportionately high.

The average value of applications (Fig. 5.3.v.b) led by women is comparable to that of men, exceeding it considerably in some years.

Fig. 5.3.v.b Value of Applications



5.4. CAREER DEVELOPMENT: PROFESSIONAL AND SUPPORT STAFF

5.5. FLEXIBLE WORKING AND MANAGING CAREER BREAKS

Note: Present professional and support staff and academic staff data separately.

(i) Cover and support for maternity and adoption leave: before leave

Explain what support the department offers to staff before they go on maternity and adoption leave.

Staff are directed to the publicly available departmental *Staff Guidelines for Maternity, Paternity and Adoption Leave*, updated in 2023. The document provides information about *university* policies in line with regulations, and details the *departmental* support procedures, including an easy-to-navigate flow diagram with timed actions.

Early on, staff members discuss potential health-and-safety issues with their line manager/supervisor, setting up accommodations if needed. Working flexibly or part-time is explored, highlighting financial implications on maternity pay. Pre-maternity leave meetings are scheduled to discuss topics such as hand-over periods, mutual expectations, keeping-in-touch during leave, arrangements for student supervision and research activities related to grants, and administrative duties. Meetings with HoS, HoD, DHFO or the EGPC Chair may clarify other issues.

Expected arrangements upon return (changes in workload, research leave) are also discussed, keeping in mind that changes may occur.

(ii) Cover and support for maternity and adoption leave: during leave

Explain what support the department offers to staff during maternity and adoption leave.

The leave cover or office staff maintain contact with the individual on leave as agreed (email, telephone, none). During leave, staff may use up to ten paid “Keep-in-Touch days” to maintain contact with their research groups, attend staff meetings, research away-days, etc.

Credit towards research leave is accrued during maternity leave.

(iii) Cover and support for maternity and adoption leave: returning to work

Explain what support the department offers to staff on return from maternity or adoption leave. Comment on any funding provided to support returning staff.

The department aims to accommodate any desired return option: staged return, part-time work, flexible working, or combinations. Academic staff may be given reduced teaching and administrative duties.

Line manager and staff member meet soon after the return and then again after three months. Meetings focus on re-profiling role dependent duties, respecting personal preferences and departmental constraints.

Funding is available through the departmental *Collaborative Research Exchanges* scheme and general departmental research funding scheme (cf. Sec. 5.3 (iii)) to help restart the research activities of returning staff.

(iv) Maternity return rate

Provide data and comment on the maternity return rate in the department. Data of staff whose contracts are not renewed while on maternity leave should be included in the section along with commentary.

All staff who took maternity leave from 2012 to 2022 (Table 5.5.iv) returned to work, some with arrangements such as working temporarily part-time, for example.

| Maternity leave | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| PSS | 1 | | 1 | | 1 | | | 1 | 1 | |
| PGR | | | | 1 | | | | | | |
| Lecturer | 1 | 1 | 1 | | 1 | | | | | |

Table 5.5.iv: Uptake of maternity leave

(v) Paternity, shared parental, adoption, and parental leave uptake

Provide data and comment on the uptake of these types of leave by gender and grade. Comment on what the department does to promote and encourage take-up of paternity leave and shared parental leave.

Arrangements for parental leave of more than three weeks are similar to maternity leave arrangements described in (i) to (iii).

Parental leave was taken by all staff entitled to do so (Tables 5.5.v). Known parents-to-be are informed of the university's parental leave policy and departmental guidelines. Departmental arrangements for shared parental or adoption leave are also set out, but have not been used.

| Parental leave | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|----------------|------|------|------|------|------|------|------|------|------|------|------|
| PSS | | | 1 | | 2 | | | 1 | | 1 | |
| PDRA | | | | | | 1 | | | | | |
| Lecturer | 2 | 1 | 2 | 1 | 2 | | 2 | 1 | 1 | | |

Table 5.5.v: Uptake of parental leave

(vi) Flexible working

Provide information on the flexible working arrangements available.

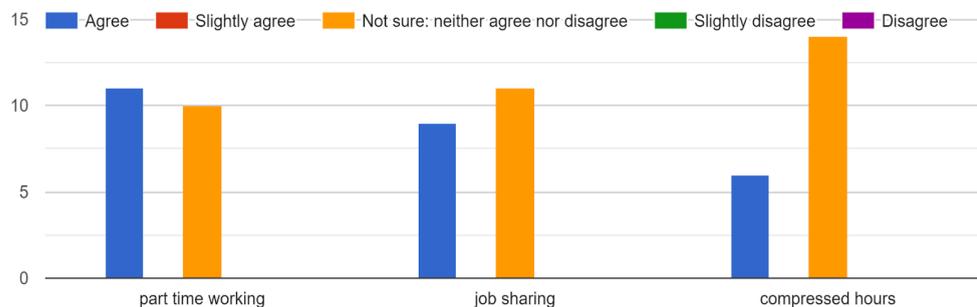
Staff wishing to work flexibly are supported whenever operationally and financially viable. A document on the departmental intranet describes all options. Requests for unpaid leave or to switch between full- and part-time are given full consideration.

Staff submit requests for consideration of personal commitments (caring or other) they may have before the timetable construction begins. Staff may choose freely when to start/end their working days to accommodate domestic responsibilities.

In the 2017 UoYES, 93% of respondents said that they are “able to work flexibly” (UoY-wide: 79%), and 89% agree that their “line manager is considerate of my life outside of work”. In the EGPCCS2018, 2F/9M agree that requests for part-time working (1F/7M for job sharing) are supported (Fig. 5.5.vi). For *informal* flexible working arrangements, see Sec. 5.6.vi.

Fig. 5.5.vi: Views on flexible working among staff

4. My line manager is supportive of requests for flexible working including requests for part time working, job sharing or working compressed hours.



In recent years, all applications for formal flexible working were accepted, including a request for a career break by a male senior lecturer. In a typical academic year (2019/20), nine instances (2F/7M) of flexible working patterns and part-time requests were in place. Seven (2F/5M) of them related to caring or medical/disability circumstances.

Former PGR (M): *“The department has been particularly helpful by allowing me to take a leave of absence whilst I did an internship for three months. This allowed me to gain valuable work experience.”*

Lecturer (F): *“With two children and a husband whose job involves extensive travelling abroad, flexibility is key in my daily life. Indeed, I benefit from flexible working arrangements on a daily basis, as the department allows for my teaching and administrative tasks to be scheduled within core hours.”*

Professor (M): *“The department has offered superb support since my arrival in York. I have a degenerative neurological condition and my two children were born in 2007 and 2011. The department has enabled me to work flexibly, take extended paternity leave, and to drop my hours first to 80% and later to 60%.”*

Reader (M): *“A few years ago my partner took a job in Australia to be nearer to her ageing mother and the department very kindly gave me two tranches of leave of absence. Not only was this personally beneficial to us, but also very much so for my own research.”*

(vii) Transition from part-time back to full-time work after career breaks

Outline what policy and practice exists to support and enable staff who work part-time after a career break to transition back to full-time roles.

UoY has no policy outlining the specific support given to staff transitioning from part-time to full-time.

5.6. ORGANISATION AND CULTURE

(i) Culture

Demonstrate how the department actively considers gender equality and inclusivity. Provide details of how the AS Charter principles have been, and will continue to be, embedded into the culture and workings of the department.

DoM strives to provide a collaborative working environment irrespective of gender, nationality, sexuality, race, religion, disability, or age. DMT is acutely aware of women being underrepresented in mathematics. To reach a balanced workforce, DoM needs to create a place open to all, and accountable regarding EDI. DoM is committed to embedding the AS

principles into its structure and values. EGPC conducts surveys and provides suggestion boxes for students and staff to identify procedural/structural problems. HoD recently appointed EDI champions, part of a University-wide scheme, to share best practice across the university and provide staff with human points of contact for equality and diversity matters. (**Action 2.1**).

The departmental website provides direct external links to initiatives relevant to gender equality, such as the AS initiative and the *LMS Good Practice Scheme*, on the landing page and/or under the heading “Equality, Diversity and Inclusion.” The information provided was overhauled by EGPC in 2021, and the departmental webpages were updated in Summer 2023.

DoM aims to treat staff fairly (e.g. by allowing the widest possible access to resources such as travel funds), to be transparent (e.g. by making minutes from committee meetings available) and to be inclusive (e.g. by adding *non-binary* as a choice in addition to *male* or *female* in recent EGPC surveys). 75%F and 100%M agree/slightly agree that “*Staff are treated on their merits irrespective of their gender.*” (EGPCCS2021).

Do UG finalists consider the DoM to be “*supportive of women*”? Three women out of the 87 female graduates said *no* (EGPCCS 2018-2021). Between 20% and 42% of female finalists thought the DoM would be “*very supportive.*” Each year, around 50%F said “*somewhat*”, and 5-25%F (30%M) “*never thought about it.*”



Entrance to the Topos, common room and seminar room, staff in the topos.

DoM has long strived to create better social spaces. In 2017, the common room relocated to a new space called the *Topos*. Comprising a social space and another versatile room used for seminars, meetings, receptions, award ceremonies and activities by the students' *MathSoc*, it noticeably improved the collegial atmosphere. PGRs and staff use it regularly for coffee breaks and lunch.

PGR (F): *"I spend time in the Topos every day."*

Reader (M): *"The Topos is great. It is both a research centre and a social centre for the department, and I find I know a lot more than I used to about what other people are doing."*

Aiming to promote awareness of matters relating to equality, diversity and inclusion and help initiate conversations on the topic, EGPC initiated the EGPC annual lecture series in April 2022. This lecture series is advertised to the all staff and all students and timetabled to minimise conflict with other timetabled activities. The first talk, by a historian of mathematics, taught us that the widely held belief exemplified by Hardy's famous 1940 statement "Mathematics is a young man's game" actually has its origins in the early 20th century. The second talk highlighted the need for an intermediate solution until we reach that point when we have enough role models from the communities we want to include. This was supported by the speaker's experience as a mathematician who is black and a wheelchair user who grew up in Africa. The lecture series is still taking shape, we aim for diversity in both topics and speakers and have started planning for the next iteration (**Action 1.1**).

Inclusive social events, at different times of the day, are fixtures of the annual departmental cycle. On the last day of assessment for final year UGs, poster presentations by finalist BSc students and talks by finalist MMath students are open to peers, recreating the spirit of a research conference. The day ends with a *Departmental Barbecue*, where finalists relax with staff and PGRs.

Final-Year UG (F): *"BBQ is fab—we should do it more often. I'm a joint degree student and I find the maths dept more inclusive and 'community-like' than the other dept."*

Many staff and their families attend the annual *Summer Garden Party*. DoM organises a subsidised *Christmas party* for PGRs/academics/support staff, and other one-off events such as celebrating REF results.

In EGPCCSs 2018-21, 91% of respondents agreed "that departmental social activities are equally welcoming to PhD students of all genders". The departmental colloquium, the *Lewis Fry Richardson Lecture*, addresses all

staff and is followed by a drinks reception and dinner. Annual *Research Away-Days* with subsidised lunch bring together all researchers (academic staff, PDRAs, PGRs) for talks and discussions without administrative or teaching-related interruptions.

A dedicated Newsletter for ECRs is sent out monthly. Meetings for ECRs were organised (pre-pandemic) by the RF and are being phased in again (**Action 2.3**). As female ECRs are likely to be the only female ECRs in their research group (see figure 4.P), this provides opportunities to meet other women at a similar career stage.

Once a term, female staff and PGRs are invited to the *Women's Catch Up*. This opportunity to meet other female members of the department can be particularly important for women with different cultural or religious backgrounds.

The department is on excellent terms with *MathSoc*, the UoY's society of UG mathematics students, supporting its activities logistically (room bookings, catering), financially, and through staff participation. At the weekly *Cake and Calculus* event (term-time) students of all years meet to help each other.

(ii) HR policies

Describe how the department monitors the consistency in application of HR policies for equality, dignity at work, bullying, harassment, grievance and disciplinary processes. Describe actions taken to address any identified differences between policy and practice. Comment on how the department ensures staff with management responsibilities are kept informed and updated on HR policies.

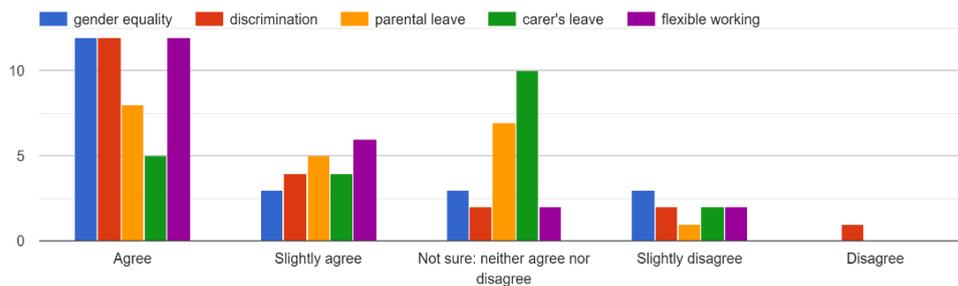
In four EGPC surveys (2018-21), 44% of 78 responses (54% of 19F; 48% of 50M; 0% of PN) from PGRs agreed that DoM and UoY provide them with "*information about matters of gender equality and policies related to discrimination, bullying and harassment*"; 19% disagree (26% of 19F; 16% of 50M; 22% of PN). 87% of respondents (89% of 17F; 90% of 44M; 78% of 7PN) would speak to their supervisor to raise issues making them uncomfortable; 2M and 1PN said they would not. 81% of respondents (similarly distributed among genders) believe that their supervisors would "*deal effectively with complaints*" (harassment/bullying/offensive behaviour), up by 23% compared to 2016. The appointment of a departmental EDI champion gives an additional resource (**Action 2.1**).

UoY introduced new policies on *Bullying and Harassment, Dignity at Work and Study* supported by report-and-support tools and two sexual violence liaison officers.

HR policies relevant to staff are communicated at *staff meetings* and by email. 61% of 5F/18M/1PN feel at least somewhat informed about gender equality (50%F/48%M), and 65% about discrimination (50%F/72%M) (EGPCCS, Fig. 5.7). The PSS team now includes an HR contact. This new role is described in the summary sheet describing the administrative support available in the department (**Action 2.4**).

Fig. 5.ii: Awareness of HR policies among staff

23. The Department has made it clear to me what its policies are in relation to...



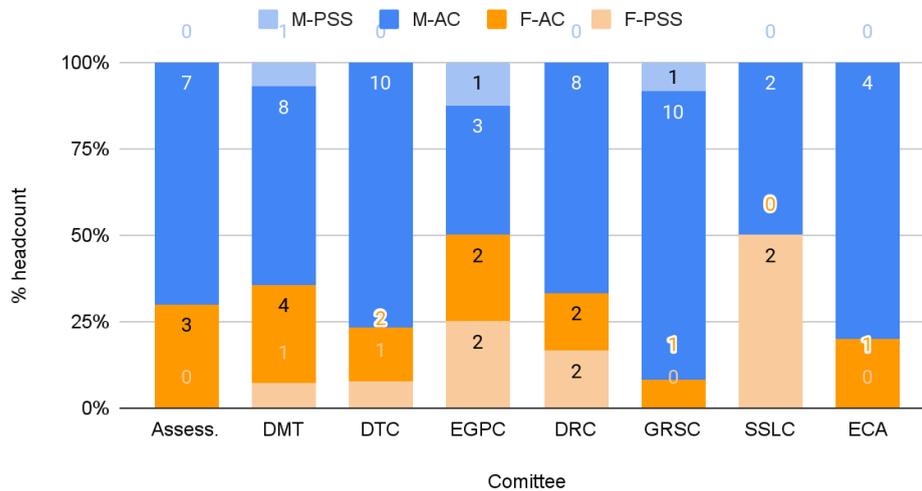
(iii) Representation of men and women on committees

Provide data for all department committees broken down by gender and staff type. Identify the most influential committees. Explain how potential committee members are identified and comment on any consideration given to gender equality in the selection of representatives and what the department is doing to address any gender imbalances. Comment on how the issue of 'committee overload' is addressed where there are small numbers of women or men.

DoM committees have 29% female staff, with 22% female academic staff (Fig. 5.8). The influential committees (DRC/DTC/DMT/EGPC) have 35% female staff and 25% female academics. GRSC currently has one female member. EGPC and DTC are currently chaired by women, all others by men.

The over-representation of women on committees is inevitable as long as their representation among academic staff remains as low as it is (< 20%). Until this is corrected, we aim for a fair distribution of the overall workload based on our workload model, which fully recognizes time spent on committees.

Fig 5.6.iii.a: Committee membership



Committee chairs range from Lecturer to Professor, and typically serve for three years. To replace members, the chair consults with the HoD, considering gender balance, expressions of interest, and workload allocations. This approach follows feedback from the EGPCCS2015. The DoM has improved transparency by documenting administrative roles and associated workloads on the intranet.

65% of 23 staff agree (EGPCCS2021) that “In the Mathematics Department, work is allocated irrespective of gender”, including 3F out of 4F, while 1F disagrees slightly, as does 1M.

(iv) Participation on influential external committees

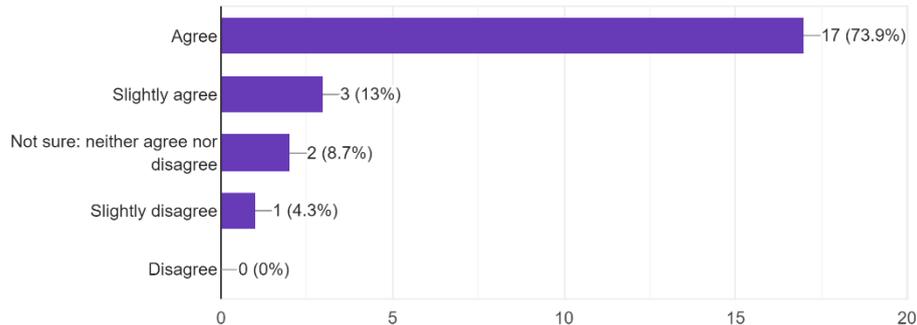
How are staff encouraged to participate in other influential external committees and what procedures are in place to encourage women (or men if they are underrepresented) to participate in these committees?

The EGPC2013 staff survey raised concerns that representing the department “externally on committees of learned societies and funding bodies” might go unacknowledged. The current workload model recognizes the time spent by staff on large external responsibilities, including travel and preparations. The majority of respondents now view external commitments positively (Fig. 5.10) although 2F are “not sure” and 1F “slightly disagrees.”

Fig. 5.6.iv: Representing the department

8. I am encouraged and given opportunities to represent the Department externally and/or internally (e.g. on Departmental committees or as a speaker at conferences).

23 responses



(v) Workload model

Describe any workload allocation model in place and what it includes. Comment on ways in which the model is monitored for gender bias and whether it is taken into account at appraisal/development review and in promotion criteria. Comment on the rotation of responsibilities and if staff consider the model to be transparent and fair.

The departmental workload model, owned by DMT, measures (in hours) all contributions made by staff. A thorough review was carried out in 2014-2016 by a working group led by a past EGPC Chair, as set out in our 2013 AS action plan. Time estimates of workloads were based on written evidence from current and past role holders. The workload of a staff member is allocated with the goal to balance the loads over a period of three to five years.

Teaching, recruitment activities, pastoral care, outreach and public engagement, chairing of and participation in committees, etc., are included, as are support for research and management duties. For example, chairing DTC and EGPC is allocated the same workload number of hours; buy-out from grants or other income increases research time.

The HoD presents the departmental workload distribution of the previous year at a staff meeting, in anonymized form. Details without anonymization are available on the intranet. EGPC routinely inspects the workload distributions in *anonymised gendered form*.

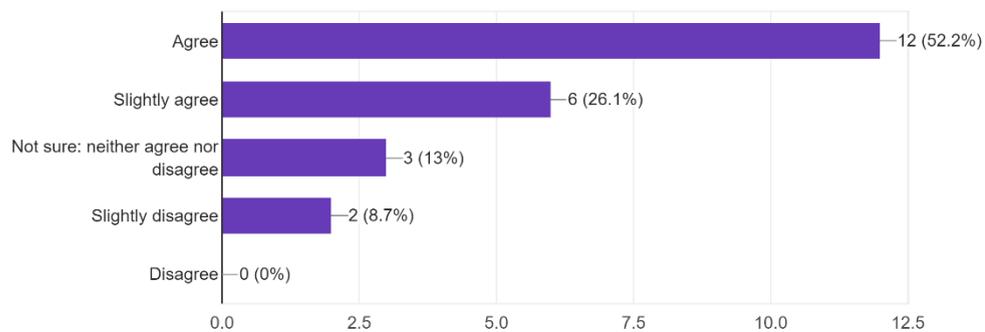
Seasonally occurring workloads such as marking large numbers of exam scripts or marking final-year projects are distributed among staff to adjust uneven loads. In the EGPCS21, Nearly 80% staff view the workload

allocation positively (Fig. 5.6.v). The answers of the 4F covered four different options.

Fig. 5.6.v: Perception of workload allocation among staff

1. In the Mathematics Department, work such as administrative jobs and teaching is allocated on a clear and fair basis.

23 responses



DMT carries out regular reviews and updates of the workload model to maintain its effectiveness. We intend to increase the review frequency to three times a year: once per semester and once after Semester 2 teaching and marking are completed. To enhance transparency, the outcomes of each review will be reported during staff meetings ([Action 2.2](#)).

(vi) **Timing of departmental meetings and social gatherings**

Describe the consideration given to those with caring responsibilities and part-time staff around the timing of departmental meetings and social gatherings.

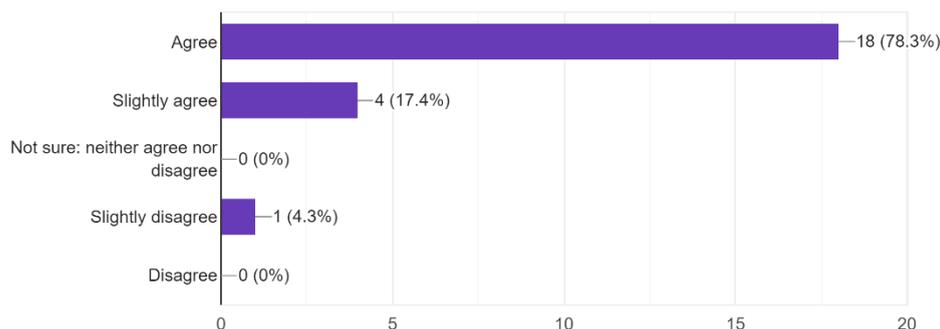
UoY schedules teaching activities between 9am and 6pm on weekdays, a total of 45 hrs, although full-time staff are contracted to work only 37.4 hrs/wk. DoM manages this mismatch by a generous policy of *informal* arrangements for flexible working, in addition to the *formal* arrangements (cf. Sec. 5.5(vi)) which were extended considerably during recent work-from-home rules.

Committee meetings and departmental meetings involving all staff are held between 10am and 4pm. This change of practice was influenced by EGPC and arose from the reflection following DoM's 2013 AS application. Social gatherings are announced well in advance to allow staff to rearrange other commitments.

Fig. 5.6.vi: Adherence to core hours

3. Departmental meetings are held during core hours (10am to 4.00pm) to enable those with caring responsibilities to attend.

23 responses



Only 1M disagrees slightly that meetings are held during core hours; 3F of 4F agree, well in line with 78% of all staff (Fig. 5.13-EGPCCS2021). The combined positive total of 96% positive responses are an improvement over 2014, when 73% of 46 staff (8F/38M) agreed/strongly agreed.

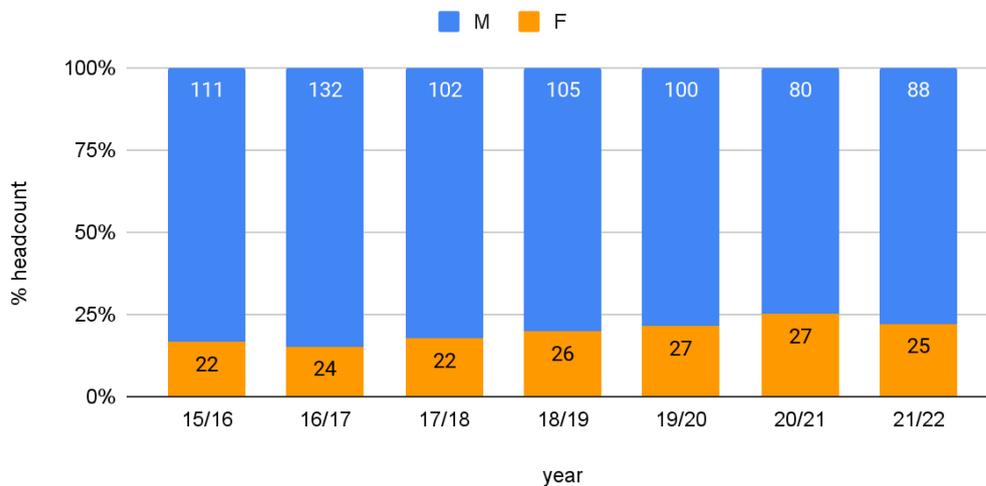
(vii) Visibility of role models

Describe how the institution builds gender equality into organisation of events. Comment on the gender balance of speakers and chairpersons in seminars, workshops and other relevant activities. Comment on publicity materials, including the department's website and images used.

DoM runs ten regular term-time research seminars series. Through dedicated efforts to promote inclusivity prompted by our 2015 AS action plan, there have been above 20% female speakers since 2020/21 (Fig. 5.6.vii). This positive change was shared in a department-wide newsletter. The next step is to aim for each research seminar series to have at least 20% female speakers each year, and to have 30% female speakers overall (**Action 1.3**). The option to present talks online will help support a more diverse range of speakers.

PGR (F): *"The Algebra seminars feel like less of a boys' club, and I think it's great. I only have a year of seminars to compare it to, but it feels like we've had far more female speakers this year".*

Fig 5.6.vii: Research seminar speakers (all research seminar series)



From 2015 to 2019, the Lewis Fry Richardson lectures featured 1F/9M speakers. The lectures resumed in 2023, with 1F/1M speakers. We will monitor the gender of speakers in this lecture series, aiming for at least 20% female speakers ([Action 1.3](#)).

The proportion of female participants (including speakers) at pre-pandemic conferences organised by staff members and held in York varied between 12% and 18%. In view of this figure, the DRC now requests that organisers consider gender balance when applying for financial support of events. We aim to have 25% F among speakers in events organised by staff ([Action 1.3](#)).

When asked about “*bias towards men or women in the material provided to you when applying,*” 82% UGs (66F/45M/3PN) in four first-year cohorts (EGPC surveys 2018-21) had not noticed any imbalance. 16% said “don’t know” or did not answer.

In 2018, an “*increased presence of female staff would make a difference*” to 53% of female first-year students responding to an EGPC survey, 66% in 2019 and 71% in 2020. In these years, all first-year modules were taught by men. Including a female lecturer in 2020, as proposed in our 2019 AS action plan, saw this figure drop to 59%. We plan to continue to provide a female role model to first year students ([Action 4.5](#)).

15% to 37% of PGRs who responded to four EGPC surveys were female, out of a total of 78 returns (19F/50M/9PN) over four years 2018-21 (PGRs may respond more than once since on a three-year degree). Most respondents agree (94%) that opportunities for seminar teaching do not depend on gender or ethnicity; the remaining 6% (2F/2M/1PN) “don’t know.” 86% (16F/44M/7PN) agreed that publicly visible information about

and within the DoM “shows the contribution of its members regardless of their gender;” the rest were undecided.

In 2019 and 2021 all PGRs said their peers treat them “with respect.” 47% of female responses confirm the presence of visible role models such as invited speakers, while 16% disagree, and for 26% it was “neither.” For males, these percentages were 72%, 2%, and 26%, respectively. A total of 15% said that, at least once, they felt uncomfortable due to their gender or ethnicity (8F/3M/1PN).

(viii) Outreach activities

Provide data on the staff and students from the department involved in outreach and engagement activities by gender and grade. How is staff and student contribution to outreach and engagement activities formally recognised? Comment on the participant uptake of these activities by gender.

To address the gender imbalance in mathematics, staff and PGRs actively participate in two to three outreach activities monthly. These activities are integrated into the workload model for academics. In 2020, live events were replaced by online activities due to Covid-19, but live activities resumed in 2022/23 (Table 5.G). By increasing the number of pupils studying mathematics at higher levels, we expect a more balanced student cohort at the university. We will continue outreach efforts, increase the involvement of female staff, and provide more female role models (Action 4.1).

| | 2013 /14 | 2014 /15 | 2015 /16 | 2016 /17 | 2017 /18 | 2018 /19 | 2019 /20 | 2020 /21 | 2021 /22 |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| # | 6 | 27 | 24 | 33 | 30 | 22 | 17 | 8 | 10 |

Table 5.6.viii.a: Number of outreach activities each academic year

Activities include *subject taster days, school visits, science trails, public events, Be Inspired, and popular lectures*, catering for broad audiences, from school pupils to interested adults. Staff regularly participate in university-run schemes (*Next Step York, Realising Opportunities, York Experience Summer Schools*) targeted at under-represented groups in higher education.

In 2016 DoM established and led the *Royal Institution Mathematics Masterclasses*, offering Saturday morning sessions for Year-9 pupils from across North Yorkshire, supported by male and female PGRs. A former female PGR received a *Masterclass Achievement Award in 2018*.

| Year | Speakers from York | Lead by |
|---------|------------------------|---------|
| 2016/17 | 1F/2M | 1F PGR |
| 2017/18 | 2F/1M | 1F PGR |
| 2018/19 | 2F/2M | 1F PGR |
| 2019/20 | 1F/1M (planned: 1F/2M) | 1M PGR |
| 2020/21 | Did not happen | N.A. |
| 2021/22 | 1M/1F | 2F PGR |

Table 5.6.viii.b: DoM contribution to the *Royal Institution Mathematics Masterclasses* from 2016 to 2022

For many years, DoM held *Twilight Sessions*, running as separate Y12 and Y13 courses from November to April, at a range of schools in the region. The Y13 classes focused on STEP, MAT and the transition to university mathematics, while the Y12 classes offer a broader range of curriculum enhancement. Each session was run by a staff member assisted by a PGR, and the classes were paid for and organised by the network *Advanced Mathematics Support Programme*. In 2019, one of the four teachers was female, and eight out of 18 Y12 students were female, as were four of the 15 students in Y13. We have not yet been successful in resuming this activity post-pandemic.

Additionally, we conducted sessions for the University's *Science Work Experience Week* for Y10-11 students in 2021/22 and 2022/23. Several staff have participated in the *Festival of Ideas* and given talks at *Pint of Science*, targeting the general public.

A female professor of the department was selected by the *Women in Mathematics Committee* of the LMS to give an annual Mary-Cartwright Lecture in 2014 and she also gave a *Gresham College Annual Lecture*.

Florence-Nightingale Day and the *Ada Lovelace Day* triggered outreach activities for girls from local girls-only schools. In June 2017, a poster exhibition was hosted across UK universities as part of the *European Women in Mathematics* initiative. A day of outreach events for regional schools followed, with 35 girls and 8 boys attending. A year later, the outreach event "*Maths—Unlocking the world around us*" had 5 male and 20 female pupils from local schools, including a "Girls' Academy." The event, funded by the EGPC budget, involved PGRs of both genders. Afterwards, 44% of the pupils expressed increased interest in studying mathematics at university.

DoM is preparing a MOOC, led and conceived by male staff but also featuring female staff, thus providing female role-models without overburdening female staff.

6. CASE STUDIES: IMPACT ON INDIVIDUALS

7. FURTHER INFORMATION [60 WORDS]

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

Please comment here on any other elements that are relevant to the application.

Data collection (e.g. survey responses or updates of relevant data bases) was impacted considerably by the many changes to the PSS team, and more recently the marking and assessment boycott.

In mathematics, research often takes a long time to be published. Currently available departmental data are insufficient to establish whether the pandemic has affected male and female staff disproportionately.

8. ACTION PLAN

The action plan should present prioritised actions to address the issues identified in this application.

Please present the action plan in the form of a table. For each action define an appropriate success/outcome measure, identify the person/position(s) responsible for the action, and timescales for completion.

The plan should cover current initiatives and your aspirations for the next four years. Actions, and their measures of success, should be Specific, Measurable, Achievable, Relevant and Time-bound (SMART).

See the awards handbook for an example template for an action plan.



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| Ref | Action | Rationale | Timescale | Person(s) responsible | Success criteria/ Outcome measures |
|---|---|--|---|---|---|
| 1. Make gender equality and good practice a central part of our department's culture | | | | | |
| 1.1 | Hold annual EGPC lecture for all staff and students in the department. | To promote awareness of matters relating to equality, diversity and inclusion, and initiate conversations on the topic, a centrally timetabled annual talk addressed at the whole department (all staff and students) with carefully chosen topics and speakers has been launched. This lecture series will additionally enhance visibility of role models from underrepresented groups. Two lectures have been held but the lecture series is not yet firmly established in the Department. | Initiate in Spring 2022 | C-EGPC | <p>The annual lecture is well attended (from 2023/24, record estimates of attendance numbers)</p> <p>Track the gender of speakers (aim for 3 out of next 5 speakers being female), and also whether they belong to any underrepresented groups in Mathematics.</p> <p>Seek feedback from attendees and from planned focus groups (Action 2.6)</p> |
| 1.2 | <p>Implement the departmental action plan through EGPC working groups which were approved by BoS, assigning clear AS actions and accountability to EGPC working groups.</p> <p>Ensure that the "Teaching, Learning and Employability (TLE) action plan"</p> | The action plan was not well known throughout the department, even by people in key roles. It was also intimidating in size. Refining it, as we have for this resubmission, and sharing responsibility for actions should help the implementation of the actions and tracking the outcomes and their impact. | <p>From Oct. 2023 (EGPC working groups)</p> <p>When the new process is in place</p> | <p>EGPC and DMT (EGPC working groups)</p> <p>C-BoS (Teaching, Learning and Employability)</p> | <p>Action plan is visible on the EGPC intranet page.</p> <p>Implement an Action Tracker, and systematically track the actions and their impact (e.g., whether the success criteria has been met).</p> |

| | | | | | |
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| | being produced through the new "Annual Programme Review" is linked to the AS action plan. | Linking the TLE action plan with the AS action plan will make sure that the TLE action plan supports DoM's priorities regarding gender equality and increase the chance of successful implementation. | (estimated end of Semester 2 in 2023/24 | y Action plan) | Add a dedicated section for "Items raised by the EGPC working groups" to the agenda of all EGPC meetings. |
| 1.3 | Strengthen our commitment to improve gender balance in research seminars and events organised in York <ul style="list-style-type: none"> - Continue annual reminder to seminar organisers and reporting on numbers, including the Lewis Fry Richardson Lectures. | We have achieved the target of 20% female speakers in research seminars (2015 AS action plan). However, women are not evenly distributed among the different seminar series. Furthermore, the Lewis Fry Richardson Lectures (which happens 1-3 times a year) was not included in our earlier monitoring. Of 10 Lewis Fry Richardson speakers from 2015 to 2019, only 1 was a woman. | Extension of existing action | RF and DRC DMT (for the Richardson-Fry colloquium) | To have 25% female speakers overall each year, with each seminar series achieving at least 20%. Between resuming in 2023 and the end of year 2026/27, the Lewis Fry Richardson lectures will have at least 20% female speakers. |
| 2. Make our department into an environment where women (and members of other underrepresented groups) can thrive | | | | | |
| 2.1 | Ensure that DoM has EDI champions that are widely known throughout the department. | The Department will appoint two EDI champions as part of the University-wide programme to be the point of contact for staff and PGRs regarding any EDI issues or bad practices affecting women in the department and share best practice across the university. The champions will feed back to the EGPC committee and work with the HoD and EGPC chair to enable further promotion of best practice around equality and diversity. The department had an EDI champion previously, but the role was not widely known among staff and PGRs. Women | From Summer 2023 | HoD and DMT | Regular reporting from EDI champions to HoD/EGPC chair (or at EGPC committee if appropriate), dealing with issues arising. Feedback from focus groups indicates that staff and students know who the EDI champions are and feel confident that they can go to them if needed. |

| | | | | | |
|-----|--|---|---|------------------------------|---|
| | | (and members of other underrepresented groups) should have a clearly defined port of call to address any negative experiences or examples of poor practice which they observe. | | | |
| 2.2 | Increase the frequency of official reviews of the workload model by DMT to 3 times a year (once during each semester and once after teaching and marking is complete). Improve the transparency of this process by reporting the outcomes of each review at subsequent staff meetings. | A good workload model is crucial to make the most of each staff member's contribution. Not everyone should be expected to contribute in exactly the same way. For example, women may be involved in outreach and teaching more than men (see Actions 4.1 & 4.5). Furthermore, most committees need to include at least one woman. These additional workloads for women in the department should be rewarded and valued in the workload model in a flexible manner so that women's total workload remains comparable to men's. | From Semester 1 in 2023/24 | DMT and staff conducting PDR | Feedback obtained from focus groups indicates that women think the workload model is fair. In surveys, F and M staff respond positively when asked if work is allocated fairly and transparently, and irrespective of gender. Use 2023 as a baseline to set specific objectives for later years. |
| 2.3 | Resume informal gatherings for ECRs (including PGRs and PDRAAs) | A newsletter was created for ECRs (following an action in the 2019 AS action plan). Informal meetings for ECR's across the department lapsed during the pandemic, but they should resume to build a sense of community. Especially as female ECR's are likely to be the only female ECR (and sometimes also the only ECR) in their research group, informal gatherings for ECR's provides the opportunity to meet other women at a similar career stage. This may include introductions to | From Semester 1 2023-2024 (resuming informal gathering) From Semester 2: first focus | RF and EGPC-PDRA rep. | Informal ECR gatherings to restart and become regular fixtures in the department. Use 2023 and 2024 staff survey and 2023/24 focus groups to identify concrete improvements to ECR gatherings. |

| | | | | | |
|-----|--|---|------------------|------------------------|--|
| | | groups within the department, such as our branch of the Piscopia Initiative, or university-wide groups, including the Women in Research Network and the Rainbow Alliance. | group with ECR's | | In focus groups (see Action 2.6), women ECRs give positive feedback about the support they've received in York. This should include some women-only focus groups as a means to build support networks for female ECRs in the department. |
| 2.4 | Raise awareness of existing admin support and the specific roles of admin staff, maintain a summary sheet, and highlight it in the fortnightly newsletter for staff. | To ensure all staff have equal opportunities for progress and balanced workloads, we need to ensure all staff are aware of the support available in the department. There has been considerable change in the PSS team in the past year, so staff and PGRs do not always know what support is available, or who to ask when they need something. As a result, an ad hoc list was circulated in Autumn 2022, listing the members of DoM's PSS team, their responsibilities and their contact information. This information is now available in a document on the staff section of the intranet. This will be highlighted in the fortnightly newsletter, which also includes reminders around best practices. | from Summer 2023 | Admin manager and DHFO | In focus groups, F Staff and PGR s comment that they are aware of the existence of the document summarising what administrative support is available in the department. The document detailing admin support is regularly updated and maintained (i.e., with each change to the PSS staff). |

| | | | | | |
|-----|--|---|----------------|---|--|
| 2.5 | Systematically ask PGRs working as GTA's for teaching constraints and preferences | Academic staff are asked each year about teaching constraints and preferences. Constraints (caring responsibilities, disability,...) are regulated by central university timetabling but approved by HoD. Timetabling liaison to the department tries to take these preferences into account but unlike centrally regulated teaching constraints, those are not always granted. Staff have research seminars added to their timetable so that they are not given teaching during that slot. However, GTAs are not routinely asked about teaching constraints as staff are, despite now being employees of the university. GTAs may have caring responsibilities; e.g. several of our externally funded female students have caring responsibilities for children. Furthermore, the timing of research seminars for PGRs should also be taken into account (as it is for staff). Teaching allocation for GTAs is undertaken from within the department and such preferences are currently arranged informally at the request of the PGR, but a formal process would be more equitable. | from 2023-2024 | DH-teaching and C-GRSC | <p>Introduce a formal system to take account of PGR GTA constraints when organising teaching.</p> <p>In surveys/focus groups, GTAs report that their preferences and responsibilities are accounted for when teaching is timetabled, and that the new formal system is fair and equitable.</p> |
| 2.6 | <p>Initiate regular focus groups on gender equality (and wider diversity and inclusion issues) for the different groups within the department</p> <ul style="list-style-type: none"> - for UG/PGT this should be added to the agenda of one | The feedback we obtain from surveys is not always nuanced enough to provide a better understanding of the situation in the department. This is in part because the survey is multiple choice, but also because the sample sizes of some groups are very small. For example, we have very few female | from 2023-2024 | <p>C-EGPC (overview)</p> <p>EGPC working groups</p> | Focus groups (including sessions specifically for women and other under-represented groups) occur on a regular basis (at least once a year) and feedback is used to identify and address gender |

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| | <p>of the staff-student liaison committee</p> <ul style="list-style-type: none"> - for ECR's this can be included in the agenda of one of the informal meetings from action 2.3 - For staff this could take the form of a gathering around tea/coffee | <p>academic members of staff, we have few ECR's overall, and even fewer women ECR's. Therefore focus groups can provide more detailed feedback from all groups, and identify issues more effectively in ways tailored to each segment of the department.</p> | | SSLC | <p>equality and wider diversity and inclusion issues.</p> |
| 3. Support women's careers at all stages | | | | | |
| 3.1 | <p>Review the criteria for prizes awarded to PGTs.</p> <ul style="list-style-type: none"> - | <p>Since 2011/12, 18% of prizes for outstanding MSc dissertations went to women, when they have consistently formed more than 40% of the cohort. Moreover, no prizes were awarded in 5 academic years because of existing stipulations on their conferral. At UG level, more prizes are awarded with a variety of criteria. We plan to review how we award PGT prizes, broadening the award criteria. Funders for the existing prizes will be consulted on any proposed changes, or new funders must be found to support new prizes.</p> | <p>2024-2025: review and exploration of options</p> <p>from September 2026: implementation</p> | <p>EGPC working group for PG student matters</p> | <p>New broader award criteria for PGT prizes are introduced, in consultation with existing funders.</p> <p>By 2029, on average over 5 years, the proportion of women awarded prizes is in line with the proportion of women in the student population</p> |
| 3.2 | <p>Understand the potential gendered impact of covid-19 on the degree classification of UGs and the proportion of F students being awarded prizes.</p> | <p>Prior to 2020/21, women were consistently awarded a larger proportion of first class degrees. The change that year coincided with a particularly low proportion of women among students awarded UG prizes. Although the proportion of prizes was high the following year, we need to</p> | <p>continuing (tracking of data)</p> <p>from 2024-2025: use focus</p> | <p>DH-teaching and C-EGPC</p> | <p>If degree classification proportions have not recovered by the end of 2023-2024, use focus groups (including women and students from other</p> |

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| | | identify if there is a continuing trend, in particular for the degree classification, which we were unable to obtain in time for the resubmission of our AS award. | groups to understand what's happening | | under-represented groups) to find out why. |
| 3.3 | <p>Improve promotion guidance for academic staff:</p> <ul style="list-style-type: none"> - Emphasise promotion in PDR - Invite HR colleagues to talk about the promotion process and criteria during the first autumn staff meeting. Immediately following the staff meeting, have a panel with people from the department who have been involved with promotion (both applications and panels) recently. | <p>Promotion seminars in the department have lapsed in part because of the pandemic. As the promotion process can be intimidating, we aim to re-introduce annual promotion sessions that utilise people's recent experience of the promotion process to help the next generation of staff, complementing the existing University-wide promotion webinar. Liaising with the Central university HR services can answer questions from staff in the department, and we can raise concerns about the university promotion process. .</p> | <p>Continuing (emphasising in PDR)</p> <p>From 2023-2024 (person from the centre in staff meeting + panel)</p> | <p>HoD + staff conducting PDR</p> | <p>There is a talk & panel discussion on the promotion process included annually in staff meetings.</p> <p>There is consistent positive feedback from staff (especially female staff) regarding promotion and career progression in focus groups & surveys.</p> <p>Aim for “strongly agree” for the majority of responses on questions relating to promotion, especially:</p> <ul style="list-style-type: none"> - “I understand the academic promotion process in the Department.” - “I am aware of and understand the academic promotion |

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| | | | | | <p>criteria applied by the University.”</p> <ul style="list-style-type: none"> - “In the Mathematics Department, staff are treated on their merits irrespective of their gender (e.g. staff are actively encouraged to apply for promotion and take up training/development opportunities irrespective of their gender).” - “My line manager supports my career development.” |
| 3.4 | <p>Introduce an academic job application seminar (in the form of a panel) for advanced PGRs, PDRA’s and temporary teaching staff about applying for postdocs/lectureships/teaching positions, with the panel including at least one woman.</p> | <p>Supervisors and mentors each have different experiences and knowledge about applying for academic jobs in the current climate, therefore showcasing a wider range of perspectives and experiences is useful. Featuring at least one woman on each panel will ensure all female advanced PGRs, PDRA’s and temporary teaching staff learn from other women’s experience of the academic job market.</p> | <p>From 2024/25</p> | <p>C-GRSC, C-DRC, RF PGR rep.</p> | <p>In surveys (and through focus groups feedback), PGRs, PDRA’s and temporary teaching staff know what to expect from an academic job search.</p> <p>Academic job application seminar held annually over next five years.</p> |

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| | | Longer term, we aim to build on the expertise we've developed helping candidates applying for fellowships, arranging mock applications and interviews for students and staff. | | | |
| 4. Support the national and international Mathematics community's effort to attain gender equality in mathematics at all stages | | | | | |
| 4.1 | <p>Maintain departmental involvement in Outreach, and increase the involvement of female staff in outreach activities, in particular the MOOC that's being developed.</p> <ul style="list-style-type: none"> - Monitor numbers accessing the MOOC. If possible, monitor gender and aim to exceed 37% female users (the percentage of female maths A-Level students). - If possible, monitor the proportion of F pupils attending outreach activities. Implement an improved feedback process, and see consistent positive feedback from participants (students, teachers, etc). | <p>Using our recruitment resources such as in person interview days, our connections with the MRAO central outreach team, and Advanced Outreach Mathematics Support programme, we can review how best to target school pupils from underrepresented groups, including gender. Running events explaining how maths can lead to certain careers and showcasing current female students and staff, this will contribute to reducing the gender gap in both student recruitment within the department, and more broadly in mathematics HE.</p> | <p>from 2023-2024 (increase involvement from F staff)</p> <p>From Summer 2024 (monitoring of UCAS forms)</p> | <p>Outreach officer</p> <p>Student support admin (monitoring of UCAS form)</p> | <p>We see York-led outreach activities mentioned in UCAS applications (exact nature of monitoring to be determined)</p> <p>Monitor number of F staff & students delivering and supporting outreach activities. Ensure that these contributions are accounted for in the workload model, and that staff & students agree this work is valued by the department when asked in surveys and focus groups.</p> <p>Use specific survey questions:</p> <ul style="list-style-type: none"> - "The Mathematics Department uses women as well as men as visible role models" - "The Mathematics Department values the full range of an individual's skills and experience (e.g. for |

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| | | | | | academics: research, teaching, service, outreach) when carrying out the Performance Review.” |
| 4.2 | <p>Encourage suitable second year students to switch from BSc to MMath</p> <ul style="list-style-type: none"> - Include this in the pastoral supervision schedule in Semester 2 - Email all 2nd year students who have achieved a first in their studies so far (1st year +semester 1) to encourage them to consider switching to MMath with clear instructions on the process | <p>The proportion of women in the BSc is larger than in the MMath (42% for BSc vs 20-35% for MMath). Encouraging strong students to switch to the MMath should improve the proportion of women on that stream.</p> <p>This has been done on an ad hoc basis in supervision meetings or talks to the second year students, but without significant effect. To reach more students, especially female students, a concerted two-pronged approach would be most effective:</p> <ul style="list-style-type: none"> - a personal approach via the pastoral supervisor - a fact based approach from CBoS | <p>Continuing (via supervision meetings)</p> <p>from 2023-2024 (annual email)</p> | <p>Student service admin person + Second Year Tutor</p> | <p>Identify key factors in choice of stream through focus groups (especially with female students), and use findings to improve conversion process and advice.</p> <p>Strong BSc students switch to MMath in larger numbers, and as a consequence the proportion of women in the MMath increases.</p> |
| 4.3 | <p>Encourage suitable MMath students to consider doing a PhD</p> <ul style="list-style-type: none"> - Add consultation to supervision schedule (in 3rd | <p>The proportion of women drops significantly from the MMath (around 30%) to PGR applications (25%) to enrolled PGRs (<20%), despite our UG recruitment proportions being above the Russell group average. Encouraging more UGs to consider</p> | <p>from 2023-2024</p> | <p>C-BoS + C-GRSC</p> | <p>Monitor the number of York students applying for and/or starting a PhD (this should account for those moving to</p> |

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| | <p>year and/or start of 4th year)</p> <ul style="list-style-type: none"> - Email all 3rd year MMath students who score 75% (or whichever number we decide) in their 2nd and third year taken together, to encourage them to consider doing a PhD. The email should provide an approximate timeline for applications, what is usually required, and where to find more information. | <p>applying for PhDs should increase the proportion of female applicants, and then also the enrolled students.</p> <p>Again, different approaches will work best for different students, and complement what we have started with the PGR-run Piscopia initiative. A combination of personal encouragement from supervisors, and wider-scale emails outlining the application process and timelines, should improve the reach and effectiveness of this action.</p> | | | <p>other institutions or into different disciplines).</p> <p>Proportion of female PGR applications in the department matches the MMath proportion in the department.</p> |
| 4.4 | <p>Improve our PGR application process:</p> <ul style="list-style-type: none"> - Review the language used in our adverts for funded PGR places. - Consistently offer additional opportunities of contact with prospective supervisors and current students to women with funded PGR offers (we did it inconsistently in past years). | <p>The proportion of PGRs in the department (<20%) is below the Russell group average (about 25%), and there are multiple factors influencing this.</p> <p>Part of the issue is the way the PhD programme is advertised. As reported by staff who attend the LMS organised event about increasing diversity of PGRs, a small step to take is to review the language used in adverts. Words like “outstanding” should be avoided, because they tend to discourage applications from women and other underrepresented groups.</p> <p>Furthermore, the proportion of offers accepted by women (26%) is lower than for men (29%). This</p> | <p>Language of adverts (start for our re-advertisement this summer+ review periodically)</p> <p>more systematically from 2023-2024</p> | C-GRSC | <p>Barriers to application and potential issues with the application process are identified through focus groups with current PGR students & supervisors.</p> <p>The proportion of enrolled female PGR students matches the proportion of female applicants.</p> |

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| | | <p>may partly be due to them accepting offers from more prestigious institutions/supervisors. However, by offering additional contact between offer holders and prospective supervisors and current PGRs, we give potential students more opportunity to decide if the department suits them. It is hoped that this will encourage a higher proportion of women to accept offers.</p> | | | <p>Achieve parity between men and women on proportion of accepted PGR offers.</p> |
| 4.5 | <p>Provide F role models to prospective and current UGs:</p> <ul style="list-style-type: none"> - Continue to ensure contribution from F staff in interview days and open days - Aim to have at least 2 women lecturing in the first year | <p>After a dip to 34% in 2014/15 the percentage of women in the UG population has risen to 41% after the department restructured its <i>Visit Days</i> to include interviews, as proposed in the action plan of our 2015 AS application. We also make an effort so that F applicants are interviewed by F staff or PGR students, and F staff are present at open days. This has been established but requires annual commitment and effort from the organisers and F staff and PGR students.</p> <p>Before 2020, we did not have any women lecturing to 1st year UGs. An action in our 2019 AS application was to have at least 1, which has been achieved. An action in our 2022 AS application was to have at least 2. We had 3 in 2022/23 and we will have 2 in 2023, but having at least 2 women lecturing in 1st year is not yet an established practice.</p> | Ongoing | <p>DoAdmission and Student support administrator (visit days)</p> <p>Heads of Sections (F lecturers in 1st year)</p> | <p>Over the period of the award, the proportion of women in York's UG population continues to grow on average, not dipping below 40%.</p> <p>Consistently have at least 2 F staff lecturing to 1st year UG students to provide F role models.</p> |