Application details	
Name of institution	Lancaster University
Name of department	Department of Mathematics & Statistics
Date of current application	November 2016
Level of previous award	Bronze
Date of previous award	28/04/2017

Contact details for application	
Name	
Email	
Telephone	

Question	Words used
Letter of endorsement from the Head of Department	466
Description of the department	728
The self-assessment process	1418
Previous action plan*	
Progress report	2507
Current self-assessment and future priorities	2344
Future action plan*	
Overall word count	7463

*The previous and future action plans should contain no commentary contributing to the overall word limit

Overall word limit: 6000 words

Contents

Notes: Minor revisions requested in blue.

GLOSSARY

Abbreviation	Meaning
AcadS	Academic Staff
AS	Athena Swan
ASAP	Athena Swan Action Plan
CI	Covid-19 Impact on the Department
DA	Departmental Assistant
DO	Departmental Officer
DoPS	Director of Postgraduate Studies
DoR	Director of Research
DoUT	Director of Undergraduate Teaching
ECR	Early career researcher
EDIC	Departmental Equality, Diversity and Inclusion Committee

EDICh	EDIC Chair
FST	Faculty of Science and Technology
FT	Full Time
GL	Group Lead
HoD	Head of Department
HoS	Head of Section
IT	Information Technology Technicians
MPSAL	Maternity, paternity, shared parental or adoption leave
MTAT	Maths Teaching Admin Team
PDR	Performance and Development Review
POE	People and Organisational Effectiveness
PDRA	Postdoctoral Research Associate
PG	Postgraduate Student
PGR	Postgraduate Research Student
PGT	Postgraduate Taught Student
PSS	Professional Services Staff
PT	Part Time
RCM	Recruitment, Conversion and Marketing Officer
RPC	Research and Project Coordinator
staSAT	SAT Staff Subteam
stuSAT	SAT Student Subteam
SPO	Student Programme Officer
UG	Undergraduate Student

1 Section 1 – Introduction to the department and the self-assessment process

In Section 1, applicants should evidence how they meet Criterion 1:

+ an organisational structure is in place to carry the action plan forward and continue the self-assessment process.

1.1 Letter of endorsement from the head of department

Recommended word count: 500 words

> Please insert (with appropriate letterhead) a signed letter of endorsement from the Head of Department.
>
> If the Head of Department is soon to be succeeded, or has recently taken up the post, applicants should include an additional short statement (additional 200 words) from the incoming Head of Department demonstrating their personal commitment to supporting Athena SWAN activity in the department.

Equality Charters Team
AdvanceHE

Monday 6th December 2021

Dear Equality Charters Team,

I am proud to provide this letter of endorsement for the application from the Department of Mathematics and Statistics at Lancaster University for the renewal of our Athena Swan bronze award.

A great deal of hard work, thought and reflection has gone into preparing this application. I know this first hand, as a member of the Self-Assessment Team, which contains representatives from across the Department, including established and early-career academic staff, research staff, Professional Service staff and postgraduate-research, postgraduate-taught and undergraduate students. We have learnt valuable lessons when reviewing our existing action plan and measuring progress against it, including the need for actions to be embedded within departmental processes in order for them to be effective and for progress against them to be monitored.

As Head of Department from 1st August 2017 to now, at the start of my second four-year term, I have seen the value of applying Athena Swan principles to our work and our development. I have been particularly pleased to see better representation of female staff within the Department, particularly at senior levels, and for the recent improvement in the gender balance of our undergraduate and postgraduate-taught students. In particular, we have seen our undergraduate admissions improve to 37% female for both 2020 and 2021 entry, in line with the national benchmark, from a low of 26% female in 2016/17. Both areas continue to present challenges, as does the recruitment of female staff, and these issues will continue to be addressed in our revised action plan.

I believe the work undertaken by the Department to fulfil our action plan helped us cope better with the challenges of the COVID-19 pandemic. As we recover from the enormous strain caused by the rapid shift to remote delivery, we will be well placed to implement the actions from the revised plan.

Given the feedback received on our previous submission, and in addition to the points made above, I am pleased to be able to report that the Department will continue to seek to improve female representation at all levels. All staff who sit on appointment panels are now required to undertake the University's Recruiting the Best training (which aims to ensure panel members are equipped with the understanding, knowledge and skills to undertake fair and equitable recruitment and selection). The Department's Academic Promotions Committee has had a female member since the 2017/18 academic year. The record of staffing taking paternity, maternity leave and shared parental leave is positive, with 8 members of academic staff and 7 members of Professional Service staff on such leave since 2017/18.

I hereby confirm that the information presented in our renewal application (including qualitative and quantitative data) is an honest, accurate and true representation of the Department.

Yours,
SIGNATURE

1.2   Description of the department

Recommended word count: 500 words

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

The Department of Mathematics and Statistics is one of the eight departments forming the FST. It consists of two sections: pure mathematics and statistics, and nurtures a strong research environment, with a notable research grant income.

Figure 1: Department photo from 1967

Figure 2: Department photo from 2021 featuring a much more diverse group of people

As of September 2021, the Department staff consists of 47 AcadS (10 female, 23.4%), 2 Teaching Fellows (males, one PT), 26 PDRAs (27 female, 37.0%), and 19 PSS (15 female, 79%). Amongst PSS, 17 are on indefinite contracts (14 female) and 2 are on secondment. All AcadS are on indefinite contracts without end date, 2 of whom as a result of successful cases made by the Department to the University for modifying their contract type. One current PDRA will move as AcadS in January 2022, thanks to a case, made by the Department, where EDI was a central part.
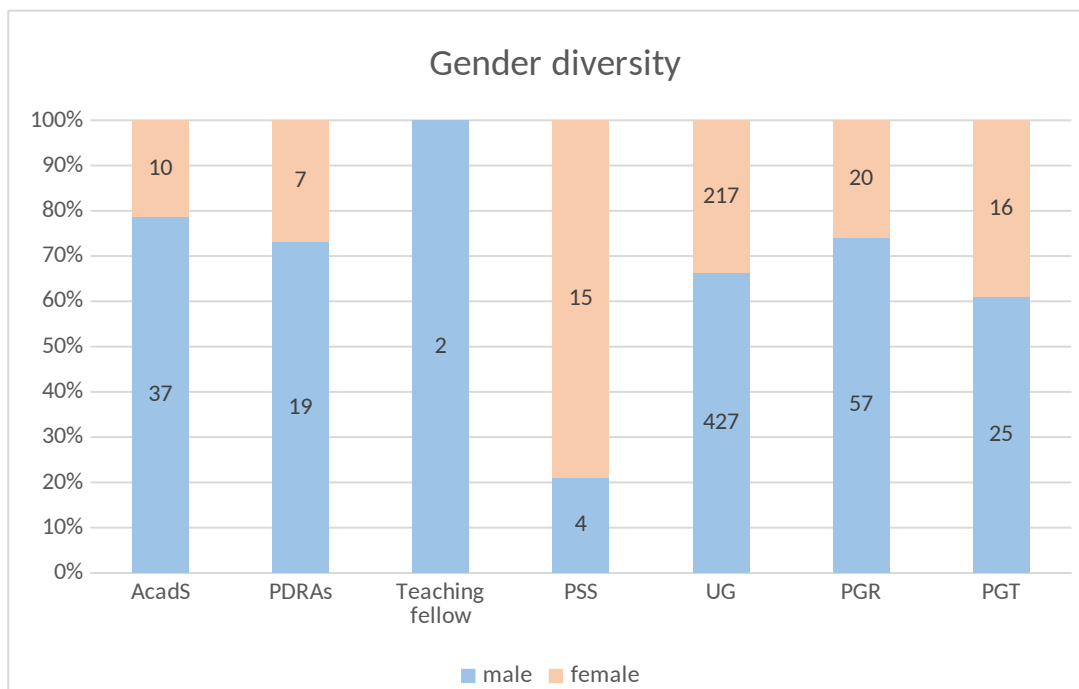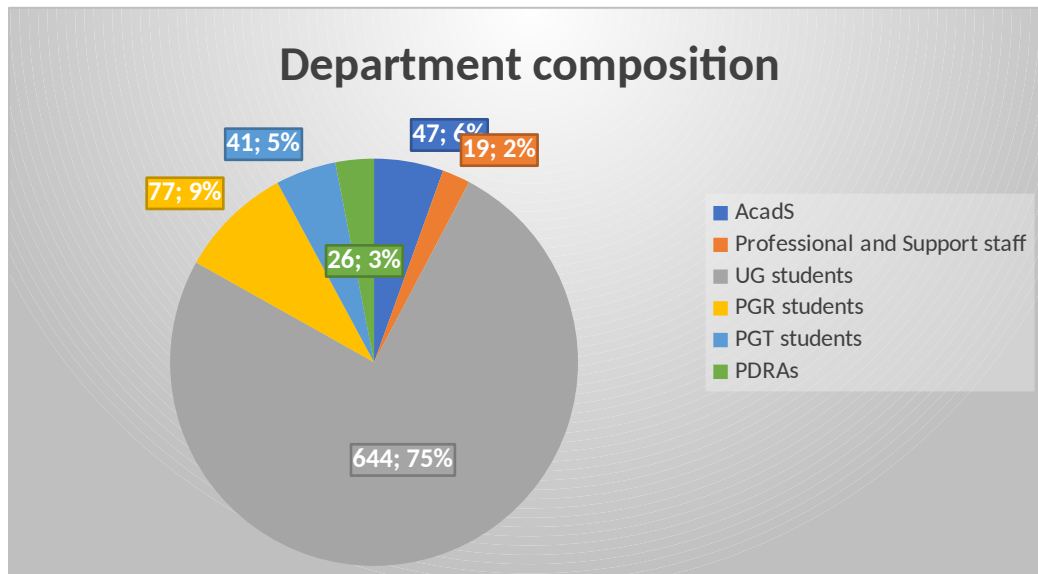
Figure 3: Department composition and gender diversity

The average age has remained low since 2016, with 20 AcadS (42.5%) under 40 years, 7 of whom are female. The most striking change since 2016 is the changing profile of AcadS at grade 9 and professorial: from 22 (3 female, 13.6%) in August 2017 to 33 (6 female, 18.2%) in September 2021 (see Figure 9 below). This evolution has resulted from improved promotion processes and a greater flexibility in facilitating part-time working contracts.

A transparent workload allocation spreadsheet indicates the work-hour credit points for each role in the department. It is regularly reviewed to ensure its comprehensiveness and fairness. Both HoSs discuss individually with AcadS to agree on their role on an annual basis. The line-management structure of the department is represented in Figure 4 (see Glossary above).
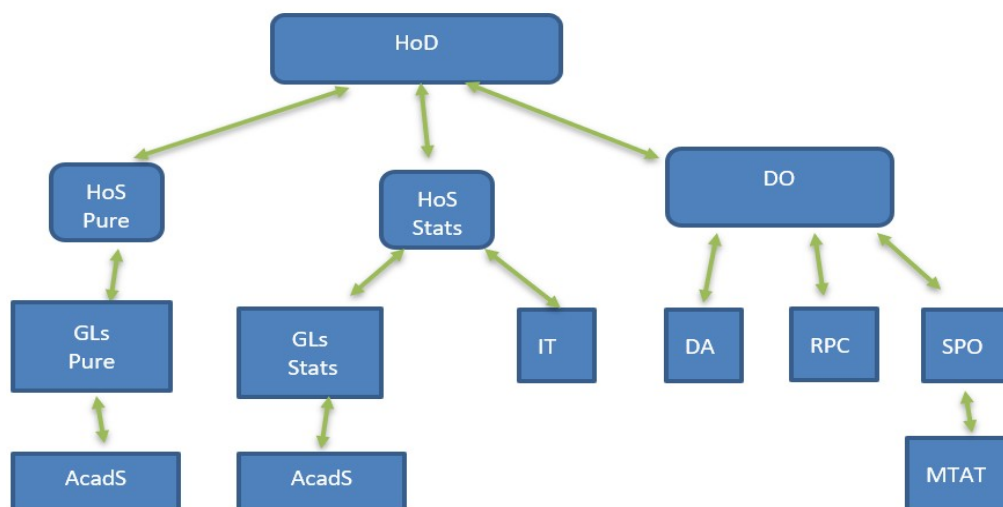

Figure 4: The department structure

The department currently administers 20 undergraduate programmes, 8 of which are single honour degrees, and 9 include a placement year in industry or study abroad. We also contribute to programmes administered by other departments. In addition, we administer postgraduate degrees, mainly in statistics and operational research (2 postgraduate taught and 3 postgraduate research programmes), plus 1 postgraduate research programme in pure mathematics. STOR-i, our EPSRC Centre for Doctoral Training, administers postgraduate degrees jointly with industrial partners, and it also offers undergraduate internships as a stepping stone into academia for the future generation. Their inclusive culture has inspired the whole department; in particular, STOR-i initiated a system of peer-tutors to support their students, and this system has led to the introduction of peer-study groups for our UGs, and peer-tutors for our PGRs. These activities help our student community bond together and the feedback from our departmental surveys is excellent. The diversity of our student population is summarised in the following table (%-ages indicate the gender ratio per column).

	BSc single	MSci single	BSc/BA/MSci combined	PGT	PGR	Total %
F	109 (33%)	66 (34%)	42 (36%)	16 (39%)	20 (26%)	253 (33%)
M	221 (67%)	130 (66%)	76 (64%)	25 (61%)	57 (74%)	509 (67%)
total	330	196	118	41	77	762

Every UG and PGR has access to pastoral care from at least one AcadS in the department, in addition to their College Advisory Teams, Lancaster University being a Collegial institution. In our department, students are also represented on most of our committees, because their views matter to our decisions. In particular, the Staff-Student Liaison Committee and Department Committee have a strong representation and student voice. Except the Department committee, for which membership consists of all staff and the Student Representatives (1-2 per cohort), the summary composition of our committees is as follows. Some committees show a gender imbalance (PSS, EDIC), which we have identified as an issue and we are taking steps (see Section 3.1).

Figure

Staff gender diversity on M&S committees 2020/21:

	AcadS		PSS			PGs			UGs			total female	total male	%F/total
Committee	F	M	F	M		F	M		F	M				
SAT	4	4	3			4	3		3	1		14	8	63.6
Policy and Resources	2	5	1									3	5	37.5

Committee														
Undergraduate Teaching	2	6		2	1			1					4	8	33.3
Postgraduate Teaching	1	6		1									2	6	25
Postgraduate Research	1	8		3									4	8	33.3
Staff-Student Liaison	1	5		2	1		1	3		4	7		8	16	33.3
Research	3	11		1									4	11	26.7
EDI	3	3		4			1			1	1		9	4	69.2
Outreach	1	2		2									3	2	60
Computing	1	2			2			1					1	5	16.7
Professional Services				8	1								8	1	88.9
blank entries = 0														

The department's Outreach Committee and School Liaison Officers engage with the local schools, providing activities which have built strong ties. In particular, our annual Florence Nightingale Day is now in its tenth edition, and our widening participation activities are becoming ever more popular with our local schools. The recently established Lancaster University School of Mathematics will be a regional centre of excellence for delivering STEM teaching at A-Level.

Figure 6: Florence Nightingale Day 2017. Feedback 2021:" It was fantastic!"; "It gave an insight into areas of maths I have never thought of before"; "I've already decided to take Maths, Further Maths or Core Maths after GCSE."

Figure 7: London Mathematical Society "Prospects in Mathematics Day" in 2019. Feedback: "Great couple of days!"; "it has been useful to meet others 'prospects students' and academics, as now I have some new ideas"; "great, useful, insightful".

[728 words]

1.3 The self-assessment process

Recommended word count: 1500 words

Describe the self-assessment process. This should include:

1 a description of the self-assessment team
2 an account of the self-assessment process

The SAT was initially formed in January 2019, in preparation for our renewal then set for November 2020. SAT members were selected, with many from our EDIC (including HoD, EDICh, DO). These were joined by students and ECRs recruited by an open call for volunteers. In total, three ECRs (2 males, 1 female), six PGRs (3 males, 3 female), one PGT (female) and three UGs (1 male, 2 females) responded. The composition of the staff SAT members is summarised as follows. All contributed to the future action plan, progress report and self-assessment.

In addition, our StuSAT comprised 6 PGRs (3F / 3M), 1 PGT (F) and 3 UGs (2F / 1M). Students took an active part as consulting members and as liaison between the SAT and the student body, and this has led to greater visibility of the department's commitment to improving gender diversity. Amongst SAT members, 4 have caring responsibilities, and 3 of the staff work PT.

A remarkable evolution of our SAT is the fact that we started with 3 ECRs, 2 of whom have since succeeded in obtaining lectureships on indefinite contract, and the third one will become a lecturer on an indefinite contract at the end of her fellowship.

In deciding the strategy for our AS renewal application, we felt it important to bring into the SAT members with the experience of our 2016 application and the EDICh, HoD and DO, since these will be responsible for monitoring much of the implementation of our ASAP. Hence the previous SAT Chair (2014-16), joined as Co-Chair, and the present HoD, member of the SAT 2014-16, joined the SAT too. We believe it is essential that the HoD takes part in the self-evaluation process, and the setting of our future ASAP, since they can ensure the consistency and fit of the newly drawn policies with the wider strategic objectives of the Department, Faculty and University. Similarly, the DO, at the Head of our PSS team, ensures that the planned actions are inclusive of all staff and benefit all. The second SAT Co-Chair was initially also member of the university's Gender Pay Gap Task Group. In June 2020, they stepped down, leaving their seat to a junior colleague, who was returning from maternity leave. They were keen to engage with the SAT work and ensure that we improve our family-friendly environment. The remaining SAT AcadS members are part of the EDIC and all have been rewarded fairly in the workload allocation model throughout the self-assessment process. PSS work on the SAT can contribute to cases for reward and recognition.

Throughout, the SAT benefitted from an excellent support of the institutional AS Team.

The work towards our renewal application started with a department-wide consultation, with a survey for staff and one for students conducted in February 2019. These were widely advertised via departmental newsletters and a Department meeting, and every department member was strongly encouraged to complete the survey. In total, 60 staff (59% as of February 2019) and 139 students (18%) submitted valid responses to the questionnaires; a higher response rate than in 2015 (respectively 55% and 9%). The anonymised responses were analysed by the two Co-Chairs. Given the small numbers in some categories, we had agreed at the Department meeting that the responses would be fully anonymised, preventing a consistent gendered analysis. We used the quantitative data on our department as provided by the university's POE division.

CI: 1. Since 2020, we occasionally sought voluntary confidential feedback from all members in the department, in order to start assessing the impact in our department. The consultation will continue after the present exercise and will be coordinated by the EDICh.

2. The increased workload for all staff, especially those with caring responsibilities, made it unreasonable to run additional surveys to mitigate the lack of consistent gender analysis in the 2019 ones.

Because of the breadth of the aspects covered by the AS charter, we subdivided the SAT into StaSAT and StuSAT, focussing on the "staff" and the "students" members of our department, respectively. The staSAT was led by one Co-Chair and comprised the HoD, DO and the early career researchers. The other Co-Chair led the StuSAT, which comprised the EDICh and the Teaching Coordinator, who has been a pillar of the MTAT for many years. In addition, all students who joined the SAT were in the StuSAT as consulting members.

The whole SAT met termly between January 2019 and July 2021, while the subteams met more frequently, about once a month. During the first phase, following the analysis of our departmental surveys, both teams worked on section 2 of the renewal application, evaluating progress towards our ASAP: first in subteams, and then coming together to review the evaluation of progress of the whole previous ASAP. For our analysis, we used the 2019 surveys, plus detailed reports from the EDICh, describing the evolution of our ASAP and its outcomes since submission in 2016. The EDICh has been the person responsible to monitor its implementation throughout and her commitment proved fruitful, in that we fully met most of our objectives. The quantitative data provided by the university's POE division allowed us to recover a comprehensive picture of our department, enabling us to measure the success of our 2016 objectives. Most of the missing information was gathered thanks to the collaboration of every colleague

and PGR who promptly replied when contacted by a SAT member. The progress of our SAT has been reported at each Department and Policy and Resources Committee meetings, which has greatly facilitated the cooperation of everyone, and ensured the transparency of the process.

Assessing the progress towards our former objectives, and trying to find the causes of missed objectives helped us understand some of the weaknesses of our former ASAP, such as the fact that collecting certain data wasn't feasible, or was unrealistic given our staff resources. We give some more detail of this in Section 2.2.

Since November 2016, our EDICh has done a tremendous job of keeping track of the colleagues responsible for implementing AS actions. When necessary, she has worked with them in order to find suitable adjustments to our set actions, especially when changes in the composition and administrative structure of our department made certain actions no longer appropriate, or when it became clear that certain actions were not producing the desired outcome (discussed in Section 2.2 below). The ongoing work carried out since receiving our departmental award, and the excellent institutional and faculty support received, have greatly assisted the work of the SAT in producing Section 2 below.

The second and final major part of the work of the SAT was to identify key AS priorities for the coming 5 years, and hence design actions which will enable us to reach new objectives. The discussions on our new priorities, the outcomes we want to achieve and the methods we believe will help us succeed involved many more colleagues and students than those on the SAT. Staff SAT members have engaged in discussions with colleagues responsible for specific areas of activity to determine what is required and desirable, and what means we have to reach our objectives. Each action has involved engaged consultation with the colleagues responsible, with adjustments made following constructive discussion between all concerned. Our future ASAP has been considered by the Department meeting and its Policy and Resources Committee, as the department's decisions are taken in a collegial fashion.

Throughout these discussions, we have kept in mind that our ASAP is and will continue to be a live document. It will evolve in line with the evolution of the AS charter's principles, and with changes in our department. The EDICh and HoD are fully committed to the successful implementation of our ASAP. The EDICh will:
• coordinate termly meetings of the EDIC, with a standing item on the progress against the ASAP,
• consult with colleagues responsible for implementing actions, and
• report on milestones each term at the Department meeting.

The HoD will seek to ensure that every department member engages with our AS strategy, and continue to reward the EDIC members with a fair allocation of workload points for their contribution.

In addition to this Department-wide approval process for our new ASAP, the SAT benefitted from independent peer review: one by our institutional AS Team, and one from the AS Lead at UCL's Mathematics Department, our "buddy-mentor" from the London Mathematical Society Good Practice Scheme.

[word count: 1347 + CI: 71]

2 Section 2 – Evaluation of progress against the previous action plan

In section 2, applicants should evidence how they meet Criteria 2 and 3:

+ progress has been made on the previous action plan

+ learning has been demonstrated from the evaluation of progress.

2.1 Previous Action plan

Please provide the most recent iteration of the action plan associated with the department's previous award. The actions should be 'RAG' rated (rated 'red', 'amber' or 'green') dependent on progress.

Ensure that colour is not the only method of indicating rating, such as through the use of letters or icons. For example: R A G

1   EXTENDED ATHENA SWAN ACTION PLAN 2016-2021 FOR THE DEPARTMENT OF MATHEMATICS AND STATISTICS, LANCASTER UNIVERSITY

THIS VERSION OF THE PLAN IS THE RAG-RATED EXTENDED ATHENA SWAN ACTON PLAN 2016-2021.

Notes: This Athena SWAN Action Plan includes adjustments made during the Covid-19 restrictions, following measures taken in response to government advice.

There are open-ended actions ("From [date]") which we are committed to make permanent.

The actions which still can take place, albeit remotely (such as meetings) during the restrictions period, are indicated with **(R)**.

The actions specific to the restrictions period are indicated with **(*)**.

The actions which cannot be fulfilled during the restrictions period are indicated with **(&)**.

The benchmarking data we use for comparison with the national average is that provided by the Higher Education Statistics Agency (HESA), and provided by AdvanceHE in the staff and student statistical reports published in 2019 based upon data drawn from HESA records from 2003/04 to 2017/18.

Table 1. Actions concerning the department's EDI committee.

Ref.	Action	Rationale	Expected outcome	Timeframe	Assessed	Responsible	Success criteria
1 **G**	**(R)** Termly EDI meetings.	Regular discussions are needed on possible equality, diversity and inclusion issues in our department. The meetings will also monitor the implementation of the actions detailed in this document.	All staff and students feel confident of fair treatment throughout their time with the department.	Since November 2014.	Via departmental surveys, every 2 years.	Chair of the EDI committee	At least 90% of staff and students feel confident of fair treatment, as assessed by departmental surveys. At least 90% of the actions in this document implemented and acted upon in timely fashion and effectively, as evidenced by their success criteria.

Ref.	Action	Rationale	Expected outcome	Timeframe	Assessed	Responsible	Success criteria
2 **G**	**(R)** EDI committee to report its proceedings at department meetings, and to liaise with the university's Athena SWAN and Equality, Diversity and Inclusion committees.	Decisions of these committees need to be promptly and openly communicated to all concerned.	Clear and efficient communication between all parties concerned with equality and diversity matters.	Since November 2014.	Termly.	Chair of the EDI committee	At least 90% of the actions agreed are implemented and acted upon in timely fashion and effectively, as evidenced by their success criteria.
3 **G**	**(*)** Consultation of department staff on the challenges and benefits of working from home.	Informal feedback shows that opinions vary significantly: for some it is easier to work from home, whilst for others this proves very difficult. The EDI Committee seeks to understand the key factors in this.	Design of more inclusive flexible working policies. Colleagues' opinions being listen to, and acted upon.	July-September 2020.	December 2020.	Chair of the EDI committee	Design of more inclusive flexible-working policies.

Table 2. Actions concerning the department's students.

Ref.	Action	Rationale	Expected outcome	Timeframe	Assessed	Responsible	Success criteria
4	**(&/R)** Increase our engagement with schools.		Increased intake of female undergraduates,	From Spring 2017.	Yearly.	(a) + (b) Schools Liaison	Increase to at least 37.4% the proportion of female undergraduates admitted

	Action	Rationale		Date start	Frequency	Officer	Success measure
G	(a) Align our recruitment strategy with schools where most of our undergraduates come from. Allocate additional travel funds of £300 per year to Schools Liaison. (b) Set up a pilot project to send female undergraduates to their former schools as Student Ambassadors. Allocate a further £300 per annum for this travel.	(a) A large proportion of our undergraduates come from Lancashire, Cumbria and Yorkshire. We should increase our engagement with the schools in these regions. (b) Sending female Ambassadors to their former schools to act as role models is likely to be a good strategy to increase our recruitment of female undergraduates.	particularly from Lancashire, Cumbria and Yorkshire.			Officer	by the department, from 2019, in line with sector benchmark.
5 **G**	(&) Allocate a Peer Tutor (final-year undergraduate student) to each first-year undergraduate student. *During the Covid-19 restrictions we do not want to impose additional strain on our undergraduate students and therefore we temporarily suspend this action.*	We want to prevent undergraduate students dropping out of university because of a lack of support, and in certain circumstances, students may prefer to turn to a peer student to express their concerns. A Peer Tutor can also act as an intermediary between student and Academic Tutor.	Improved retention rates of undergraduate students. Incentivised networking and stronger community feeling.	From the Academic Year 2018/19.	Yearly, in October.	Director of Undergraduate Teaching	Improved retention rates for undergraduate students to at least 90%.

6. **A**	Improve and refresh the department website. (a) Add case studies of successful female undergraduates who entered university with lower A-level or equivalent achievements. (b) Emphasise our safe campus environment.	(a) To encourage women to apply for an undergraduate degree, we will provide concrete examples of successful female students. (b) We also believe that personal safety is an important concern of female applicants.	Increased intake of female undergraduates.	From November 2016. (a) To be updated every three years.	Yearly.	(a) + (b) Web Officer (a) Director of Undergraduate Teaching	Increase to at least 37.4% the proportion of female undergraduates admitted by the department, from 2019, in line with sector benchmark.
7 **G**	**(R)** During Open Days and Applicant Visit Days, encourage female applicants to study mathematics at Lancaster University.	We need to clearly assert our work to promote and foster the diversity in our student population, and emphasise the advantages of Lancaster, e.g., a safe campus environment, individual Academic and College Tutors, a female-friendly atmosphere and convenient public transport.	Increased intake of female undergraduates.	From February 2017	Yearly.	Director of Undergraduate Admissions	Increase to at least 37.4% the proportion of female undergraduates admitted by the department, from 2019, in line with sector benchmark.
8	Compare the gender ratio throughout the recruitment process of undergraduates, from	Our undergraduate admissions figures showed a drop of female students in the gender ratio from 2012	An improved gender balance of participants at Open Days and Applicant	Each academic year, from 2016/17.	Yearly.	Director of Undergraduate Admissions	Increase to at least 37.4% the proportion of female undergraduates admitted by the department, from

A	undergraduate Open Day attendance to admission.	to 2016. We need to understand the causes in order to redress the gender balance in our undergraduate population. Comparing with the gender ratio of those attending Open Days should reveal if the leakage occurs between Open Days and admissions, or elsewhere.	Visit Days, in line with the gender ratio of applications and acceptances.				2019, in line with sector benchmark.
9 **G**	Academic Tutor Coordinator to ask Academic Tutors to encourage their suitable female tutees to consider postgraduate research.	The proportion of female applicants for postgraduate research degrees is low.	Increased applications from female students for postgraduate-research studies.	Yearly, at the start of Michaelmas and Lent terms.	Yearly, in October.	Academic Tutor Coordinator	Increase by 10 percentage points the proportion of female undergraduates from the Department applying for postgraduate-research studies.
10 **G**	(a) Monitor the gender ratio of the postgraduate taught student population. (b) Send female postgraduate students or early career researchers to postgraduate study fairs to help promote a diverse postgraduate student population at Lancaster,	Recent fluctuation of the postgraduate-taught gender ratio of our student population show that we need to keep making efforts in order to maintain it in line with the national average.	Maintenance of a balanced postgraduate taught gender ratio in our student population.	Each academic year, from 2016/17.	Yearly.	Postgraduate Taught Admissions staff	Keep the proportion of female postgraduate-taught students at 39.3% or above, each year from 2019, in line with sector benchmark.

	and to encourage potential students to apply to Lancaster.						
11 G	**(R)** Allocate a Peer Tutor to each new PhD student.	Students prefer to discuss some matters with their peers rather than their supervisor. Allocating an experienced PhD student to every new starter will provide peer support and immediate access to the department's friendly PhD community.	Ensured retention and completion for postgraduate research students. Stronger community feeling amongst our postgraduate research student population.	From October 2010 (STOR-i); from October 2016 (the whole department).	Yearly.	Postgraduate Research Admissions Tutors	At least 90% completion for PGR students, from 2017.
12 G	**(&)** Allocate additional funding of £500 per annum to the Pure Mathematics Postgraduate Forum to invite external female speakers (up to 4 per year).	The ratio of female-to-male speakers in the Pure Mathematics Postgraduate Forum was 10% in 2015/16. The speakers are PhD students from the department, and women are under-represented as Pure Mathematics PhD students in our department.	Improved ratio of female-to-male speakers in the Pure Mathematics Postgraduate Forum. Increased confidence of our female postgraduate-research students. Increased collaboration between	From November 2016.	At the end of each academic year.	Head of the Pure Mathematics Section	At least 25% of talks at the Pure Mathematics Postgraduate Forum delivered by a woman.

			our postgraduate-research students and external researchers. Increased visibility within the department of women undertaking postgraduate research.				
13 **R**	Add website case studies of successful female PhD students. Include explicit mention of an individual Peer Tutor for every student.	To encourage women to apply, we will provide concrete examples of successful female PhD students. To show our department is committed to a supportive environment, we will outline the Peer Tutor system.	Increased applications from female students for postgraduate-research studies.	November 2016 to March 2017. To be updated every three years.	October 2020.	Web Officer	Increase by 5 percentage points the proportion of female students applying for postgraduate-research studies by 2020.
14	(a) Compare gender ratios for postgraduate-research Open Day attendance and admissions. (b) Analyse feedback from	The number of female postgraduate-research students admitted is low. We need to understand the reasons, to improve the gender balance in our	(a) A comparable gender ratio for those attending postgraduate Open Days and those applying.	Yearly from Lent 2017.	Yearly, from October 2018.	PGR Admission Tutors	Increase to at least 28.6% the proportion of female postgraduate-research students, from 2019, in line with sector benchmark.

A	postgraduate-research Open Day participants who choose not to apply to Lancaster. (c) Analyse feedback from applicants who are offered a place but decide not to come for postgraduate-research studies at Lancaster.	postgraduate population. Losses occur between offers being made and registration. We need to understand the reasons for this and so improve our recruitment strategy.	(b) Improve our Open Day programme activities, to encourage female applicants. (c) Devise a more effective recruitment strategy.				
15 **G**	(&/R) Organise mathematics events, including social ones, with external or internal academics, which aim to promote greater gender diversity in the mathematical sciences.	The majority of the population in our department is in the category "white male". A recent survey reveals a large proportion of students would like to see a greater diversity in the department, whether by means of mathematics talks or seminars, or via social events.	Increased engagement of all student members of the department and a strengthening of ties within our department and with the UK community in the mathematical sciences.	Twice a year, from 2016.	Yearly.	Chair of the EDI Committee	At least 75% of our students "Agree" in the NSS Learning Community category, the PTES Engagement category and PRES Research Culture category.
16	(*) Outreach and recruitment actions to take place in virtual form.	During the Covid-19 restrictions, outreach and recruitment activities cannot physically take place. We	Maintenance of admissions numbers and gender ratio in undergraduate and	From 23 March 2020 until the end of the Covid-19 restrictions.	By the end of each academic year during which Covid-19	Director of Undergraduate Admissions and PGT and	Maintenance of admissions numbers in undergraduate and postgraduate admissions compared to

	No.	Action	Rationale	Success Measure	Start	End	Responsible	Target
G			need to remain visible and show a strong presence to potential future students.	postgraduate admissions during the Covid-19 restrictions, in line with the department's targets prior to the Covid-19 restrictions.		restrictions were in effect.	PGR Admissions Tutors	the department's targets prior to the Covid-19 restrictions.
G	17	(*) Virtual pastoral care, via video conferencing and termly virtual contacts (email). (*) Weekly postgraduate supervision meetings.	During the Covid-19 restrictions, face-to-face discussions on campus cannot take place. These restrictions particularly affect vulnerable students.	No decrease in the retention rates for our undergraduate and postgraduate student populations during the Covid-19 restrictions. Few intercalations and referrals to Counselling Services during the Covid-19 restrictions.	From 23 March 2020 until the end of the Covid-19 restrictions.	By the end of each academic year during which Covid-19 restrictions were in effect.	Academic Tutor Coordinator	Maintenance of retention rates in undergraduate and postgraduate student populations compared to the department's targets (in line with sector benchmark) prior to the Covid-19 restrictions. <5% increase in the number of intercalations during the Covid-19 restrictions.
G	18	(*) Undergraduate and postgraduate online teaching provision.	During the Covid-19 restrictions, lectures may be replaced by online material. Students may not have suitable environments for studying. Regular checking of engagement is essential.	Maintenance of the completion rates and no decrease in the retention rates for our undergraduate and postgraduate populations during the Covid-19	From 23 March 2020 until the end of the Covid-19 restrictions.	By the end of each academic year during which Covid-19 restrictions were in effect.	Directors of Undergraduate Teaching and Postgraduate Studies	Maintenance of retention rates in undergraduate and postgraduate student populations compared to the department's targets (in line with sector benchmark) prior to the Covid-19 restrictions.

				restrictions.				

Table 3. Actions concerning the department's academic staff.

Ref.	Action	Rationale	Expected outcome	Timeframe	Assessed	Responsible	Success criteria
19 **G**	Actively engage with the University's promotions committees, and work to ensure a fair and clear promotions policy, with particular regard to part-time staff.	Our surveys show that some staff perceive a lack of clarity and possible bias in the promotion process. This may have led staff, including established female academics, to leave. As promotions are not in the gift of the department's senior management team, we need to engage with the university in this area.	Improved retention of academic staff. Increased numbers of academic staff applying for promotion. Increased numbers of female academic staff in senior posts.	From January 2017	Annually at the end of the promotions cycle	Head of Department	At least 85% retention of academic staff. At least, 25% of academic staff at grade 9 (Senior Lecturer / Reader) and above are female.
20 **G**	Collect written feedback from leavers.	To understand the reasons why staff leave the department; at present, information is scarce and often speculative.	Understanding of the drivers which result in staff leaving the department, and so a strategy to ameliorate	From November 2016	Every 5 years, from August 2018	Department Administrator	Lose no more than 2 female members of academic staff over 5 years.

			this.				

Table 4. Actions concerning the support and advancement of women's careers.

Ref.	Action	Rationale	Expected outcome	Timeframe	Assessed	Responsible	Success criteria
22 **A**	When advertising for indefinite academic positions, (a) contact at least four potential female candidates individually, and (b) distribute the advertisement via the European Women in	The number of female applicants and female shortlisted applicants are disproportionately small at present, especially for senior posts.	Increased proportions of female applicants and of shortlisted female applicants.	From November 2016.	After each interview panel.	Head of Department	At least 25% of shortlisted applicants for indefinite academic positions are female.

	Mathematics mailing list.						
23 **A**	Reword advertisements to make them more attractive to female applicants.	The standard format used presently by the department does not emphasise various family-friendly policies and benefits.	Increased proportion of female applicants.	From November 2016.	After each interview panel.	Head of Department	Increase by 10 percentage points the proportion of female applicants.
24 **A**	Collect and analyse feedback from willing applicants who are offered a post but then decline.	Applicants have declined the offer of an academic post, from Research Associate to Chair.	Understanding why applicants choose not to join the department would help devise a strategy to prevent this.	From November 2016.	Every 5 years, from August 2018.	Department Administrator	At least 80% of offers are accepted.
25 **A**	Ensure all line managers attend the university's training for reviewers.	The role of line manager is important for staff induction and progression. It is crucial that line managers are able to provide guidance, encouragement and advice to their staff.	Staff members are well supported throughout their professional progression.	From November 2016	Yearly.	Head of Department	100% of line managers undertake the university's training for reviewers within the year they are appointed.
26 **G**	Extend membership of the department's promotions committee to include female members of staff at Senior Lecturer level and	The committee included only professors in 2016, and there was no woman professor in the department. Enlarging the	Increased numbers of female staff promoted.	From November 2016.	Annually at the end of the promotions cycle.	Head of Department	Increase by 10 percentage points the proportion of female academic staff applying for promotion by

	above.	committee in this way would bring the required balance of opinions in the discussion of promotion cases.					November 2020.
27 **G**	**(R)** Instruct PDR reviewers to discuss progression during the PDR meetings.	Survey responses show that too few staff have a strategy for career advancement, especially promotion. Staff need to be proactively supported and encouraged to progress.	Increased numbers of staff applying for promotion. Staff members well supported throughout their professional progression.	From November 2016	Annually at the end of the promotions cycle.	Head of Department	Applications for promotion to increase by 10 percentage points from 2018. At least three members of staff promoted to Professor by 2021.
28 **A**	Encourage academic staff to participate in the university's *Making Professor* event.	At present, too few academic staff take the opportunity to attend this event, aimed at fostering their career advancement.	Increased proportion of academic staff working towards a Chair.	Biennially from Summer Term 2017.	Biennially from December 2017.	Head of Department	At least 20% of eligible staff to attend.
29 **G**	Provide appropriate support, including additional discretionary funds if available, to ensure all academic staff can participate in conferences and external events. Encourage staff to apply for	Academics must engage with the community to develop and progress. Some individuals may need additional support in order to travel.	Increased research activity, including publications, external collaborations and participation in and organisation of conferences and workshops.	Ongoing.	Annually at the end of the PDR cycle.	Heads of Pure Mathematics and of Statistics	At least 90% of academic staff to be actively engaged with their professional learning community, as evidenced by PDR returns.

	childcare grants.						
30 **G**	(&/R) Provide department mentoring for writing grant proposals, and make use of the research training events organised by the university's Organisation and Educational Development division.	Obtaining grant income is important for academic staff and their promotion prospects.	Increased number of applications for external research funding from early career staff. Improved success rates.	From November 2016.	Biennially from Summer 2018.	Head of Research	From 2017, 100% of new academic staff to apply to the EPSRC New Investigator Award or comparable grant scheme during the probation period. Overall increase by 10 percentage points the number of submitted research grants.
31 **G**	Develop a departmental policy to provide additional research time for staff returning from maternity, parental or adoption leave.	At present, there is no policy to amend workloads for staff returning from leave.	A policy agreed by the department's Policy and Resources Committee, in consultation with the University's Human Resources department.	January 2016.	January 2017.	Head of Department	Introduction of this policy, publicised to all staff and documented in the staff handbook.
32 **G**	(&) Encourage academic staff returning from maternity, parental or adoption leave to make use of a department fund of £3000 per year to support	Staff returning from leave may need assistance to re-connect with the research community, while resuming teaching and other duties.	Increased number of applications for such funding.	Ongoing.	Annually each September.	Group Leads	All such staff to produce at least one research output within eighteen months of their return.

	re-engagement with research.						
33 **G**	Provide explicit guidelines in the staff handbook for staff transitioning from part time to full time.	No such guidelines exist at present.	Clear guidelines, with input from Human Resources, and an appropriate strategy to support staff working at less than 1FTE.	Lent Term 2017.	Summer Term 2017.	Head of Department	A comprehensive statement in the staff handbook, emphasising fair treatment of all staff and in line with university-wide policies.
34 **G**	Ensure that workload tasks undertaken by part-time staff are proportional to their percentage of employment.	As noted in the department survey, our workload model accounts for part-time status, but the allocation of tasks may not.	A departmental policy on non-credited jobs.	January 2016.	January 2017.	Head of Department	Part-time staff are allocated workload tasks in a proportionate manner.
35 **A**	Review the department workload model, with particular attention to teaching and gender bias.	Survey responses show that a large percentage of the department feels teaching workload allocation could be fairer. A gender-bias analysis of the workload model has not been carried out previously.	A fairer allocation of workload.	November 2016 to Lent Term 2017. To be reviewed annually.	Each summer Term from 2017.	Head of Department	At least 75% staff satisfaction with the model, as assessed by departmental survey.
36	Reform membership of Research Committee to	Membership of the Research Committee is not	More diverse representation on the	November 2016.	Summer Term 2017.	Head of Department	Improved gender balance on the Research

G	include early career staff, at least one of whom should be female.	sufficiently representative of the department at present.	committee, leading to inclusive decision making.				Committee.
37 **G**	Group Leads to communicate the benefits of internal and external committee membership for the development of academic leadership and promotion prospects.	Membership of internal and external committees is beneficial to both the individual and the department. Improved mentoring should increase the diversity of this membership.	Increased awareness of the benefits of developing academic leadership. Increased number of staff taking roles on external committees.	From November 2016.	Annually from Summer Term 2017.	Group Leads	Increase in staff bringing cases for promotion with Academic Leadership and Engagement as the highest or joint-highest score
38 **A**	Encourage academic staff to engage with the PG Certificate in Academic Practice and the ATLAS programmes.	PGCAP is only available to early-career staff. Survey responses showed demand for a scheme to help other academic staff gain HEA fellowship; this or an equivalent is now required for promotion.	Increased number of academic staff with HEA fellowship. Improved teaching quality and NSS results.	From Lent Term 2017.	Annually from Summer 2018.	Directors of Undergraduate Teaching and Postgraduate Studies	At least 75% of academic staff to have HEA fellowship or an equivalent qualification, by 2021.

2.2 Progress Report

Recommended word count: 2000 words

Consider the panel feedback on the department's previous application. How has the department responded to and acted on the panel feedback provided on the previous application?

Consider the department's previous action plan.

what methods were used to evaluate the department's progress on actions?
what were the department's main barriers and facilitators with regard to action implementation and the meeting of success measures? What steps were taken to further inform and adjust actions?
have new initiatives or actions been introduced to improve outcomes or impacts?
what are the main learnings and outcomes from the evaluation of the action plan? How will the department apply this learning to the future action plan?

The present ASAP progress report covers the period November 2016 to November 2021. Our ASAP is a "live" document, in constant evolution alongside the changes in our department and external factors. The SAT last reviewed it in Summer 2020, in light of the pandemic. The present ASAP takes into account the AS panel feedback provided on the initial ASAP. In particular, we reviewed the success criteria and adjusted them in line with the national norm for the discipline, instead of setting some unrealistic targets (e.g. 100% retention). The overall summary is that we have made a good progress towards attaining the outcomes set in our most recent ASAP, if not fully, at least in part, as we explain below. Our EDIC regularly monitors the impact of our ASAP, which helps improve the alignment of our actions with our departmental strategy to increase the gender diversity of AcadS, and students. This is done in a collegial manner, by raising the issues in the Department meetings, or with specific colleagues in the department, or with the Faculty EDI Committee, or with the institutional AS Team. The ensuing discussions often prove useful, and help our EDIC find appropriate adjustments to any of our AS unsatisfactory actions' outcomes. Such approach was very helpful in understanding the pitfalls of set actions, e.g. in Actions 6 and 13 (below). We learned that, prior to committing to an action, we must (i) assess its feasibility within the broader University infrastructure (e.g. around collection of feedback from Open Days), (ii) ensure that the responsibility for each action rest with colleagues in large administrative roles, which typically benefit from more continuity, (iii) consult the key role holders early on and engage them in developing the

actions, to ensure buy-in, (iv) ensure that all outcomes are measurable and set realistic targets. This approach has been the common thread that has guided the SAT in drawing our future ASAP.

A key facilitator, with regard to the implementation of our ASAP since its introduction, has been the overall supportive attitude of every staff in the department and the helpful advice and mediating contribution of the institutional AS and Faculty EDI committees. The support received helped the EDIC and SAT overcome some of the main difficulties faced in trying to implement some of our actions, and hence learn better ways to be an inclusive department. Trying to adjust the actions that were too resource demanding, or which did not produce the desired outcome (often because of unrealistic or infeasible objectives) provided some valuable learnings for setting our future Athena Swan strategy. We explain the difficulties and what we propose to do to overcome these below. The main obstacle to the implementation of our ASAP had been the very high turnover of PSS in key posts: E.g. in 5 years, the department experienced a succession of three DOs and six RCMs, almost all PT, interspersed with periods without anyone in post, noticeably affecting our student recruitment and administration. Our MTAT has seen the biggest fluctuation of staff, in addition to maternity leaves and sickness absences. Reasons for the high turnover are varied: career ambitions (there is no promotion process for PSS, unless they are appointed in another role), personal circumstances and retirement. The SAT has since learned that the more resilient actions are those requiring fewer staff resources. The freeze on recruitment, during the pandemic, has highlighted the need for sustainable AS actions, which the SAT aims to include in the new ASAP.

Moreover, the pandemic has led to a shift of priorities everywhere; our department has not been immune to the crisis resulting in an uncontrolled increase of staff workload (cf. actions of Table 3 and 4), leading to staff difficulties to balance their work-life. This is the biggest oversight in our ASAP. The staff survey reveals that even pre-pandemic, the workload allocation in our department was too heavy, leading to unavoidable discontent and lack of well-being. Aggravated by the pandemic (as confirmed by more recent informal feedback), the SAT agreed that a key future priority must be the improvement of staff well-being at work.

SAT and EDIC keep trying to understand the drivers behind unsuccessful attempts to improve our gender diversity, from within the department, albeit following the university's evolving practices.

Our ASAP is divided into four parts, which we discuss one by one. As explained in Section 1.3, we evaluated our progress in subteams: one focussing on the student-related actions, and one on the staff-related actions. The staff and student data used is that provided by the university at the 1st October

2021, and the departmental surveys (staff and students) carried out in February 2019. We assessed our gender diversity against the national benchmark figures given in the AdvanceHE Student/Staff Statistical Reports 2020.

During the pandemic and ensuing restrictions, the SAT adjusted the ASAP, aiming to maintain our high standards in supporting staff and students in an inclusive manner.

CI: It is too early to obtain any data on whether our adjustments have succeeded in mitigating the CI, and we will continue to monitor the CI in future. At present, "emergency actions" sit in reserve of our ASAP, ready to be brought forward again if a crisis situation re-emerges in future.

Table 1. Actions concerning the EDIC.

Our EDIC was formed in 2014, when we started working on our first AS application. Its main purpose was to facilitate the implementation of our ASAP, and handle any matter relating to equality, diversity and inclusion more broadly. Overall, all the objectives set have been met. Our EDIC has met termly since then, with focus on the implementation of our ASAP, and the handling of broader EDI matters arising in our department. The EDICh reported these proceedings in the termly department meetings, the termly meetings of the FST EDI Committee, and liaised as appropriate with the institutional EDI and AS Committees.

Table 2. Actions concerning the department's students.

In the SAT students subteam discussions on the progress on our student related actions, we first assessed the actions around the pastoral and peer support in the department (actions 5,9,11,17). Following student feedback and a proactive intervention of our DoUT, the peer-support system has been modified into Study Groups, allocated by opt-in instead of being imposed, to allow for greater flexibility.

The amber- and red-rated actions 6 and 13, respectively, on refreshing the public image of our department's student body, have been too slow, mainly because of staff overload. Our combined actions aiming to increase gender diversity in student recruitment have successfully met the expected outcome with UGs (benchmark 37% female), but not with PGRs (benchmark 29%), as shown by the data:
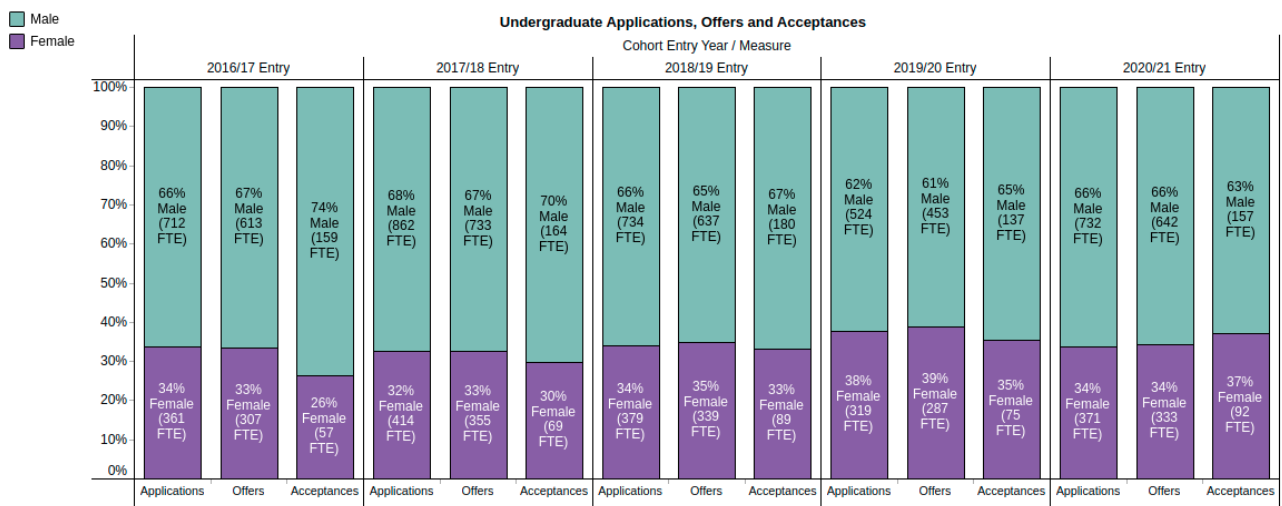
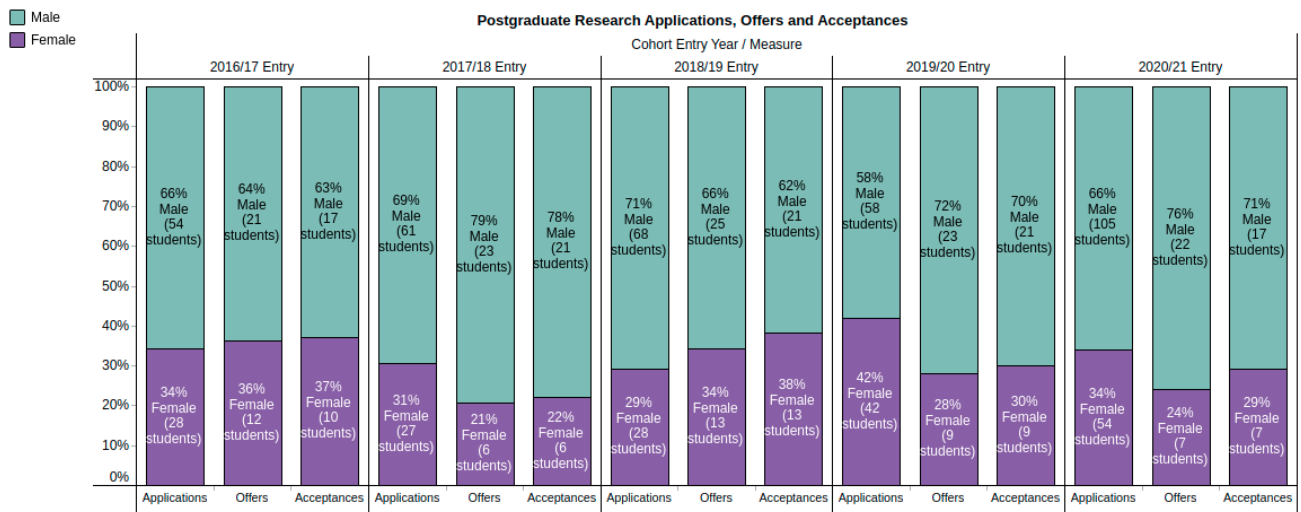Figure 8: UG Admission data 2016/17 to 2020/21

Figure 9: PGR Admission data 2016/17 to 2020/21

The StuSAT agreed that we need to revise the procedures of these actions.

The amber-rated actions 8 and 14 on monitoring attendance and analysing feedback of Open Days are hugely resource demanding, if at all feasible, and would not lead to the expected outcomes. Our Admission Teams have produced more diverse and engaging recruitment material and they have engaged with the applicants individually (e.g. personalised communication letters in offers). Following discussions with our UG Admissions and informal feedback received, the SAT recorded that a

personalised recruitment strategy has helped diversify our undergraduate admissions (37% female in 20/21, up from 26% in 2016/17).

Aligning our recruitment strategy with schools, being proactive in encouraging prospective applicants to come to study maths at Lancaster, and sending female students as ambassadors (actions (actions 4,7) may have been influential in increasing the proportion of female undergraduate student admissions (see above) in line with the national benchmark (37%). Regarding PGT Admissions, our pro-active strategy (action 10) may explain the return to a more balanced gender split, which dipped from 50% female students in 17/18 to 25% in 18/19, and is now steadily rising again to 41% in 20/21, in line with the national benchmark (39%).

There is a major event, not accounted for in our ASAP: the restructuring of our MTAT, where the transition has been smooth (details in Section 3). Although this was a major change in the department, we believed this did not necessitate any adjustment of our ASAP, and our student surveys proves us right since 96.3% of the respondents to our surveys said that they know whom to contact regarding administrative matters most of the time.

In terms of events for students, our Outreach and EDI committees organised at least 2 diversity events per academic year (remote in 2020/21, action 15), and we plan to continue with this action. Some of our events, like the Florence Nightingale Day (see photo in Section 1.3), are now traditional features which help build bonds between members of the department as well as ties to local communities. Other activities, such as the PGR seminars, allow us to embed the relevance of diversity in our younger members: by allocating extra funds to these (action 12), in order to ensure a gender balance of speakers of at least 25% women, it sensitises students to the relevance of diversity in research. This objective has been met (38.5% female speakers in 20/21 and informal feedback suggesting women feel more confident and fully integrated in the department).

Table 3. Actions concerning the department's AcadS.

To support the progression of all our AcadS, our department has relied on the contribution of the GLs in the annual PDRs, and the constructive work of our departmental Promotion Committee. As a result, most of the objectives of our ASAP have been met: an increase to 25% of staff applying for promotion

to/beyond senior lecturer, and an increase to 25% of female staff promoted to senior lecturer or above (actions 19,26,27). We achieved this despite incurring an amber rating of one of our actions: encouraging more eligible staff to attend a specific university-wide career-development training activity called "Making Professor" (action 28). However, AcadS have engaged with other training opportunities, mainly on leadership, and, in the last 5 years, these have led to the promotion of 3 academics to senior lecturer (1M) and chair (1M/1F).

We failed to obtain an 85% retention in female AcadS (actions 19, 20), since 4 left between 2016 and 2021. However, 2 of those who left during 16/17 had research-focussed fellowships and both left academia for industry at the end of their fellowships. With hindsight, the retention target set was perhaps unrealistic, even though we decreased it from 100% following the AS feedback received in 2017. Collection of feedback of leavers and of those applicants declining a job offer are green-rated, however the data collected in this way is very scarce (actions 20, 24). Indeed, feedback can only be collected on a voluntary basis, via exit interviews with the HoD in case of leavers. Even if scarce, we believe it is important and we should continue, albeit finding a more efficient way to collect feedback.

CI: 1. The pandemic led to significant delays in the recruitment of replacement staff.
2. Staff with caring responsibilities experienced very difficult working situations, especially during school closures. The department provided as much support as possible, encouraging those affected to take additional leave under the extended University's Compassionate Leave Policy.

Table 4. Actions concerning the support and advancement of women's careers.

Overall, the actions in Table 4 have led to the desired outcome as between 2016/17 and 2019/20 we increased the proportion of female to male applicants for indefinite academic posts from 18% to 23%, whilst that of shortlisted varied from 14% (3/19 in 2016/17 and 1/6 in 2018/19) to 33% (1/3 in 2019/20). The SAT however agreed that our current set of actions needs be revised since over these 5 years only 1 out of 9 new starters is female. The SAT observed the fluctuations in the number and the quality of the applicants, without understanding the drivers: We could not find any satisfactory answer to why certain appointment rounds see less diversity throughout the application process than others. These seem unrelated to posts advertised or the advert itself. We publicise the posts using official and individual paths (Figure 10). Subjective evidence suggests that targeting specialised mailing lists should have greater

prospects of helping us attract a greater gender diversity in our recruitment exercises together with engaging more pro-actively with potential applicants (future ASAP action 18).
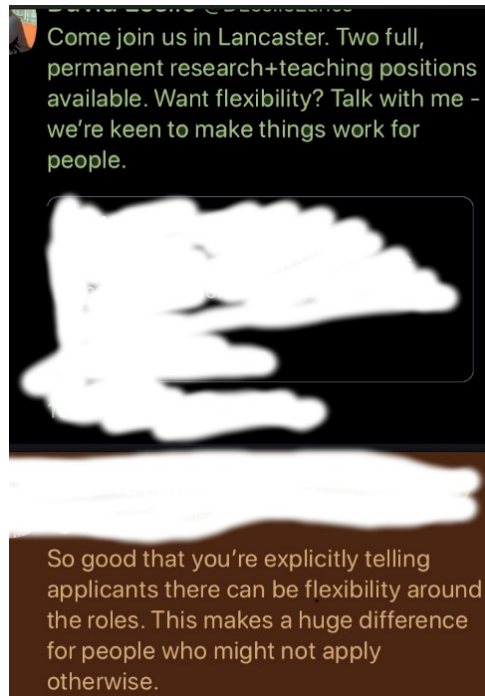

Figure 10: Improving our advertisement of academic posts.

The department is research oriented, and as such, we have included actions 29 to 34 and 36, 37 that aim to support a greater diversity of research active AcadS (most AcadS are 'active' researchers). All are encouraged to engage actively with their research community, mainly by their GL, and financial support is available if needed. As a result, 5 out of 16 promotion applications to senior lecturer and above since 2017 have been research-led cases, and 10 as balanced with "research" a leading factor.

In the department research committee, the gender balance has improved slightly over time and, in particular, now includes a female early career member of staff (action 36). Care has been given to the workload allocation (actions 34, 35) 73% AcadS (which is very close to our target 75%) and 79% female AcadS are satisfied with the workload model based on the department survey. We have provided 1-1 mentoring for writing grant proposals (action 30), and hence, each new starter from 2017 onwards submitted at least one grant application during their probation period or shortly thereafter. In 2018/19, the department submitted 48 research grant applications, increasing by 15% (=55) in 19/20.

The actions 31, 32, aimed at supporting staff returning from MPSAL, have been met and they have fulfilled their expectations. Namely, upon returning, they receive an equivalent of 150 work-hours for research in the year (in the annual workload allocation model), in addition to access to a departmental "carer fund" (unavailable during the pandemic) in order to support their re-engagement with research. There have been 6 members of current staff that have taken MPSAL since 2017, and despite the pandemic, 3 have published research papers within 18 months of returning to work, and the others have successfully re-engaged with research, albeit do not have published papers yet. From the staff survey, the department's approach to MPSAL is good, though depends on individual AcadS's relationship with their GL. It was suggested to facilitate reintegration into the department by some mentoring support, which the SAT agreed should be done in future (future ASAP action 31).

The actions 31, 33, aimed at improving our staff handbook, in order to clarify the duties and rights of all, and to provide information on flexible working, have been met on time as stated in our ASAP. Greater care has been taken to allocate roles to part-time staff in the workload allocation model on a pro-rata basis, and in our 2019 survey, 73% of respondents agreed that their workload was fair, close to our target of 75%. However, we did not succeed to meet our targets on actions 25, 38, of completion of specific training (teaching-related or PDR reviewer), mainly amongst the established professors. In particular, only 6 out of 15 professors (40%) have obtained a teaching qualification.

[word count: 2405 + CI: 102]

3 Section 3 – Future priorities and action plan

In section 3, applicants should evidence how they meet Criteria 4 and 5:

+ key priorities have been appropriately identified, to direct future action

+ a specific, measurable, achievable, relevant and time-bound (SMART) action plan has been provided, which addresses priorities.

3.1 Current self-assessment and future priorities

Recommended word count: 1500 words

Key Priorities 2022/27:

From the analysis of the quantitative and qualitative data pertaining to gender diversity in the department, and from the self-assessment with respect to the progress made since our first AS application, the SAT has decided to set the following key priorities for future actions. They will be motivated below accordingly:

- Improve workload allocation: presently felt to be excessive and affecting staff wellbeing. This will be addressed by making appointments to new and replacement posts and by teaching workloads returning to pre-pandemic levels. [Actions 5, 31, 32, 33]
- Inclusive recruitment of staff and students: our previous actions haven't improved the gender diversity in the department sufficiently. [Actions 7, 8, 10, 11, 12, 15, 16, 18, 19, 20]
- Develop and nurture a stronger family-friendly culture, evolving in line with the AS Charter. [Actions 30 - 34]
- Facilitate and encourage the integration of ECRs into academia to fix a leaky pipeline. [Actions 3, 4, 5, 25, 26, 28, 30, 34]
- Monitor the post-pandemic recovery of the department's members, and be ready to act appropriately to prevent further harm. [Actions 5, 16, 17, 32]

Student enrolment, progression, and support.

Summary of our total student population.

level \ year of entry	2013/14	2016/17	2020/21
UG	507 (188 F = 37%)	554 (158 F = 29%)	644 (217 F = 34%)
PGT	46 (23 F= 50%)	41 (16 F = 39%)	41 (16 F = 39%)
PGR	60 (24 F = 40%)	65 (28 F = 43%)	78 (20 F = 26%)
total	613 (235 F = 38%)	660 (202 F = 31%)	763 (336 F = 44%)

In 20/21, we recruited 184 UG, 68 female (=37%; in 2016/17 57/172=26% female). The gender diversity of our PGT population fluctuates between 25-65% female since 2016. Since 2018, the female PGT registrations have increased from 25 to 42%. The PGR population has seen the biggest expansion in the last 10 years. Considering the academic pipeline, from UG to professor, this increase in PGR numbers is encouraging, but there is a great fluctuation of the recorded gender diversity over the last five years. The university data shows a proportion of female PGR starting in 2020/21 of 29%, in line with the national benchmark, however it does not account for non-binary students (still work in progress institutionally), and from the above table, the current numbers suggest an action is required. The SAT could not find the reasons for such variations; anecdotal evidence suggest that they may be correlated with league tables, and with the department's lagging action to refresh their external student image on the web and social media (action impaired by the volatility of RCMs). We did not have sufficient resources to collect and analyse the feedback of prospective students. In future, we will promote a greater gender diversity in the ECRs (PGs and PDRAs) in our future ASAP (actions 3, 4, 10, 12, 13, 14, 16, 17, 27, 33). In 2021/22, we have held in-person social activities to strengthen the community spirit between AcadS and ECRs. Their effectiveness will be assessed in our next culture survey.

From our students' survey, 80% are satisfied with the pastoral care we provide and 78% of the respondents met with their Academic Adviser or Director of Studies in the previous 12 months. This perhaps helped us maintain a completion rate above 85%. The notable increase in overall student numbers since 2012 necessitated a complete reorganisation of our teaching office. Our DoUT succeeded in smoothing out the process, and, from the survey, 96.3% of the students know whom to contact regarding administrative matters most of the time. Students are represented on most of our departmental committees (Department, EDIC, SAT, Undergraduate Teaching, Staff-Student Liaison and Sustainability Committees), and whenever feasible, we encourage a gender diverse representation of students.

The future ASAP includes revised actions addressing gender diversity in student population (table 2). These follow the same lines as our current ASAP. For instance, we will continue with our peer-tutorial system of opt-in Study Group (action 8) in addition to the formal Academic Adviser allocated to each UG and PGR.

We believe that increasing diversity in academia starts at school and continues as a university student. It is therefore important for us to help students feel that they are an integral part of our department (76% of

the student survey respondents feel fully part of the Department). Because we want to make every student welcome and strengthen the community structure, we will continue to provide support and opportunities to engage in department activities (e.g. events, becoming Maths Ambassador or representative on a committee). We will continue our efforts in promoting diversity in the local schools and with all our student population (actions 3, 6, 15).

CI: The pandemic has shown our vulnerability to feeling isolated. We need to monitor its impact on our student populations: from retention, progression, completion and wellbeing.

Key career transition points.

Recruitment:

Our recruitment procedure follows the university guidelines; in particular, each interview panel includes a woman, and all panellists must have done the training on recruitment.

In 2020/21, we advertised for 2 academic indefinite posts (lecturer grade 8) to which 23% of the applicants (12/52), 33% of shortlisted (2/6) and 50% of offered and accepted posts (1/2) were female. However, the overall 5-year snapshot is less gender diverse, with 3 female/7 male AcadS appointed versus 7 female/17 male leavers:

Legend: A=Applications; S=Shortlisted; O=Offered; H=hired; L=Leavers

AcadS recruitment		A	% of A	S	% S	O	% O		Appointed	Leavers
2016/17	Female	33	18%	3	13%	0	0%		2	5
	Male	150	82%	21	88%	4	100%		1	
2017/18	Female	5	19%	0	0%	0	0%			1
	Male	21	81%	5	100%	2	100%		2	3
2018/19	Female	27	18%	1	6%	0	0%			0
	Male	127	82%	16	94%	4	100%		5	1
2019/20	Female	1	9%	0		0			0	0
	Male	10	91%	0		0			0	4
2020/21	Female	12	23%	2	33%	1	50%		1	1
	Male	40	77%	4	67%	1	50%		2	9
Grand Total		**426**	**100%**	**52**	**100%**	**12**	**100%**		**10**	**25**

PSS recruitment		A	% A	S	% S	O	% O		Appoint	Leavers

		A		S		O			ed	
2016/17	Female	38	83%	15	88%	4	80%		2	2
	Male	8	17%	2	12%	1	20%		1	3
2017/18	Female	69	73%	22	73%	7	78%		1	2
	Male	25	27%	8	27%	2	22%		0	1
2018/19	Female	14	74%	3	60%	0	0%		4	4
	Male	5	26%	2	40%	1	100%		1	0
2019/20	Female	25	78%	15	88%	4	100%		2	1
	Male	7	22%	2	12%	0	0%		0	2
2020/21	Female	7	100%	5	100%	2	100%		1	1
Grand Total		**198**	**100%**	**74**		**21**			**12**	**16**

Legend: A=Applications; S=Shortlisted; O=Offered

The current set of actions aiming to increase gender diversity throughout the recruitment process needs be improved. We propose a more engaging set of actions 18: in particular we will invite female researchers to give talks in department seminars as an ongoing process, which will help us keep in touch with those suitable for an academic post that we advertise. We also continue our work on improving our job advertisements (see Figure 10), which we will circulate widely.

Induction and probation:

Following the reorganisation of the line-management structure of AcadS, all new AcadS are allocated to a group, whose GL will support them throughout their progression in the department, formally via the annual PDRs, and informally whenever sought. In addition, the HoD, together with the new starter and the relevant GL meet in the first weeks of employment to set the probationary agreement, containing the objectives to be met by the end of the probationary period (usually 3 years). As part of all probation periods there is a lightened teaching and admin workload, so as to enable new AcadS to settle appropriately in their new role.

In addition, the university offers a range of various training that new starters are encouraged to take, in addition to the compulsory trainings (see "Career development" below).

Progression and promotion:

The departmental promotion practices for AcadS are closely aligned with the University's guidelines, and these are revised each year. Perhaps as a result of our actions 22 to 26, over the last 5 years, we

observe an increase of the percentage of staff applying for promotion to/beyond senior lecturer level, and within that the percentage of female staff: from 0% (respectively 7%) in 2015 to 25% (respectively 18%) in 2019-20, allowing us to meet our target of 25% females at senior lecturer and chair. We have also had great success at enabling staff to apply for promotion on the basis of academic leadership (not just research). In the last academic year, a new academic category has been created by the university: Teaching and Scholarship, which aims to enable AcadS with a reduced research activity to progress above lecturer. In our department, one (male) colleague has seized the opportunity, and has since been promoted to senior lecturer. A constant in the departmental support provided to staff is that most cases for promotions submitted are successful (35 out of 40, i.e. 87.5% since 2016/17). In 2021, a revised set of promotions criteria is being introduced, with the intention to facilitate the career progression of AcadS with a balanced profile. We therefore propose to continue with actions 22-26.
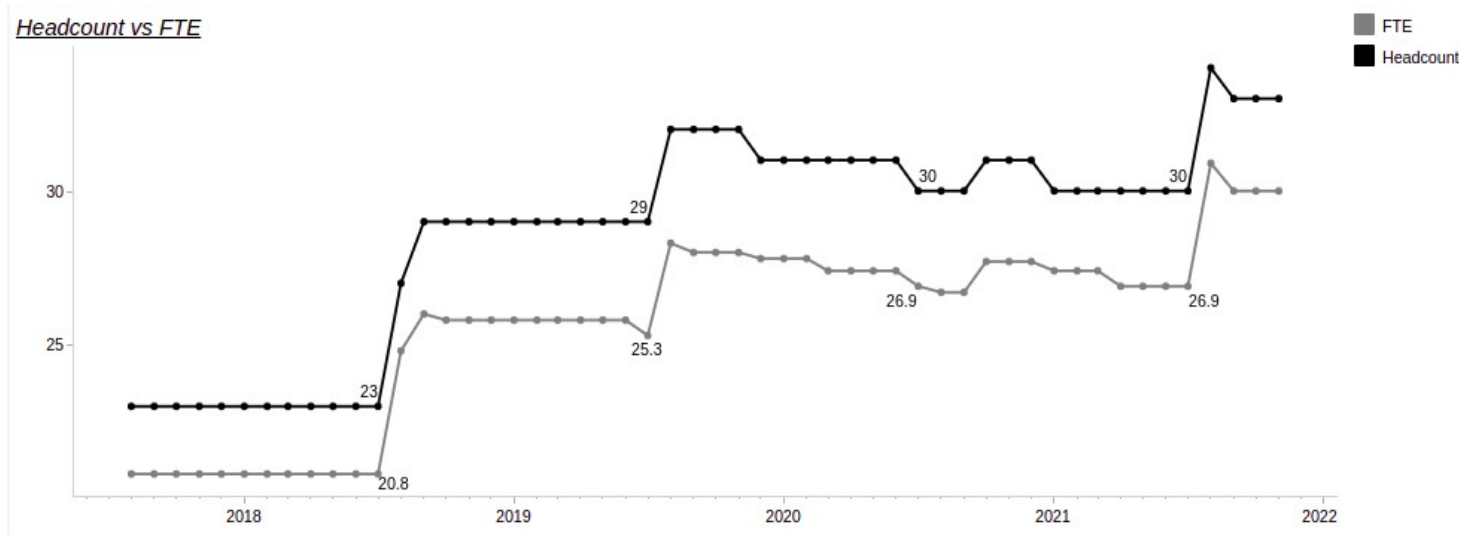

Figure 11: Increase of the number of AcadS senior lecturer and above in our department during the last five years: from 22 (3 female, 13.6%) in August 2017, to 33 (6 female, 18.2%).

Since 2017, the Department's management structure was revised to provide clearer line management, and from the responses in our staff survey, the change appears to have been successful (98% of the respondents could identify their group lead). This new process is also more supportive of AcadS career progression, and it reinforces the mentoring aspect of the PDR process. The Department maintains a high completion rate for the annual PDRs (93%). Moreover, 78% of the staff responses in our departmental survey showed satisfaction of PDR meetings and 86% acknowledged helpful advice and feedback from their GL. We propose to continue to provide this support to progression, which is transparent and flexible, allowing for a transition to remote support if and when needed (e.g. during a

pandemic). Currently, amongst female AcadS 60% are senior lecturer of above, whilst this proportion is 73% for male AcadS. Going forward, we set the target that these two proportions are within five percentage points of each other by 2024. Furthermore, we aim that, up to chair, 80% of AcadS apply for promotion within 7 years of their start of contract, or since their previous promotion (action 20).

Career development.

Since 2017, the university have increased their offer of training programmes (Continuing Professional Development). In addition, the compulsory trainings that staff are required to undertake are now required to be refreshed periodically; for instance, there is a mandatory "diversity training" that should be completed in the first 3 months of employment and needs to be repeated every 3 years. These are new university provisions and requirements in terms of career development. The different needs or desirable opportunities of continuing professional development are generally discussed and agreed at PDR meetings (GLs must have completed the relevant training, which emphasises their role in career development and progression of their staff).

An important career development for an academic generally concerns their research activity. Research grant writing is a resource demanding effort, and we therefore acknowledge it by allocating workload credit for it. In addition, the department encourages and supports each AcadS to apply for research grants: the DoR coordinates in-house training activities and grant witing mentor/mentee pairings (Action 27). The department sets aside funds to support research activities (travel, visits), and a dedicated additional fund to support staff returning from some extended leave. We propose to maintain our mentoring and financial support in future.

Additional career development is provided by external factors, such as sitting on editorial boards, acting as external examiner, or being a committee member on the board of a learned society. Every AcadS is encouraged to engage with external activities and seize suitable opportunities by their GLs. To underline the importance of these activities, we include actions 25 and 26 in our future ASAP.

Career development for PSS proceeds along similar principles as for AcadS: they benefit from the annual PDR, the advice of their line manager, the university's provision for continuing professional development, and from external specialised training.

Flexible working and managing career breaks:

The department follows the general university policy regarding flexible working and support prior, during and after MPSAL. As mentioned in our progress report, 6 members of staff have taken some form of MPSAL since 2017, and thanks to the protected research time provided by the departmental workload allocation model, they all successfully returned to work and re-established links with their research community. Recently, as part of its commitment to the AS charter, the university has introduced a new resource, PARS, to provide funding and support for academic and research staff taking MPSAL, to prevent or minimise disruption to their research. In addition to encouraging concerned staff to apply to PARS, we will re-establish our carer fund, and continue with the set of actions 29 to 32.

CI: The pandemic has led to a forced interruption of available funding, and hence the additional fund set for facilitating re-engagement with research for those returning from MPSAL (during that time, we referred staff concerned to the sources of funding from the London Mathematical Society and others).

Organisation and culture.

The Workload Allocation Model remains at the centre of our working organisation. The HoD together with the HoSs are careful to keep it a transparent and fair process for all AcadS. It is also an essential tool in supporting the career progression of AcadS, since it is generally the allocation of admin roles with greater responsibilities that enable staff to demonstrate their skills and put themselves forward for promotion. From our 2019 staff survey, 83% of the respondents gave positive responses with regard to workload expectation. Despite the clarity and fairness of the workload allocation, only 53% of staff reported being successful at balancing their workload and personal life. The unprecedented escalation of workload in the last 5 years has reached a peak, and the HoSs, both in charge of workload allocation, have been facing conundrums forcing them to shift the priorities around and, during the worst of the crisis, have opted for an approach of "business critical only" workload. This has affected the outcome of some of our AS actions, but was unavoidable given the lack of resources. The imminent new recruitments of AcadS, together with a more stable PSS Team, will be a great help in facilitating the improvements around work-life balance and well-being.

Our EDIC is at the centre of our culture. Going ahead, our EDIC has a 50-50 gender split, and includes HoD and DO. Membership of AcadS is agreed with HoSs and it is fairly credited in the workload allocation, while membership can contribute to PSS's cases for reward and recognition. HoSs agree with

individual AcadS. Our EDIC liaises termly with the Faculty EDIC and the Institutional AS Team, and in addition liaises when appropriate with the LMS Good Practice Scheme Representative (mainly regarding opportunities for relevant EDI activities across the UK). The communication of EDI matters to the whole department takes place termly in the Department meetings and in the Staff-Student Consulting Committee, as standing item on the agenda. The EDIC communicates ad hoc information via the newsletter and MS Teams channels.

CI: Based on informal polls, we expect more staff to be experiencing difficulties managing the workload and achieving a healthy work-life balance. We are therefore making this one of our priorities for 2022-2027, and include actions 31 and 32, in addition to actions 3 and 4 which aim to strengthen our community feeling. Our EDI Committee will keep monitoring the evolution and taking actions if and when desirable (action 5).

[word count: 2201 + CI 143]

3.2   Future Action plan

Please provide (in table format) an action plan covering the four-year award period.

ATHENA SWAN ACTION PLAN 2022-2027 FOR THE DEPARTMENT OF MATHEMATICS AND STATISTICS, LANCASTER UNIVERSITY

Notes:
The benchmarking data we use for comparison with the national average is that provided by the Higher Education Statistics Agency (HESA) in 2019/20, and provided by AdvanceHE in the staff and student statistical reports published in 2019 based upon data drawn from HESA records from 2003/04 to 2017/18.

Table 1. Actions concerning the department's EDI committee.

Ref.	Action	Rationale	Success/outcome measure	Timescale for completion	Responsibility for completion	Monitoring and reviewing process (refers to the action or the outcome)
1	(a) Termly EDI Committee meetings, including a standing agenda item: Progress on Athena Swan action plan. (b) EDI Committee Chair to run a culture survey every three years	(a+b) Regular discussions and consultations are needed on possible equality, diversity and inclusion issues in our department. The meetings will be used to facilitate, monitor and review if/when appropriate the implementation of the actions detailed in this document, and to help mitigate the impact of the pandemic on the department. In addition, the surveys will assess the student	At least 90% of the actions in this document implemented by June 2025.	Meetings ongoing termly with termly reports to department meeting and Staff-Student Consulting Committee; reviewed every 3 years. Yearly recruitment call for students re presentation on the EDI Committee.	Chair of the EDI Committee.	Assessed via departmental surveys every 3 years.

		and staff population with regards to their relationship with the department. A regular consulation is required to ensure that fair practices are implemented and maintained.				
	(c) Monitoring of the impact of the pandemic on staff and student bodies, via additional culture surveys and analysis if and when appropriate or desirable, and liaise with FST and university's EDI committees. .	(c)The pandemic has a particularly adverse effect on staff and students with caring responsibilities and mental health disorders. It is important to ensure a healthy work/study environment to all our members. Therefore, a regular monitoring of the "department's health" is essential.	Fast reaction and effective implementation of actions to mitigate adverse effects of the pandemic on the members of our department.	Termly monitoring. If appropriate, raise relevant matters at once to the Head of Department and the Faculty and University's EDI committees.		
2	EDI Committee to report its proceedings at Department meetings and Staff-Student Consulting Committee meetings, and to liaise with the faculty and university's Athena Swan and EDI Committees. Implementing	Decisions of these committees need to be promptly and openly communicated to every member of the department. It is important that all department members are aware of Athena Swan, and of the department's	Each milestone achieved, and each adjustment to the action plan are reported in the termly Department meetings and to the main committee meetings liaising between staff and students.	Ongoing termly. Report minuted from contribution in each Department meeting.	Chair of the EDI Committee.	Assessed via departmental surveys every 3 years.

	the actions arising from the relevant Faculty and University committees Liaise with the London Mathematical Society Good Practice Scheme Representative and engage accordingly with regards to the Society's activities and opportunities relating to EDI.	commitment to the Athena Swan Charter. Moreover, it is also necessary for the EDI committee to be up-to-date on the latest national EDI news and changes in policies, in order to adapt to the evolution in line with Advance HE.	Clear and efficient communication on equality and diversity matters in the department. Every member of the department should be aware of Athena Swan, and of the department's commitment to the Athena Swan Charter.			
3	Coordination of events promoting diversity in the mathematical sciences, possibly joint with other departments.	Social or educational activities are valued by all students, as evidenced by our department culture survey. They strengthen the feeling of being part of a diverse community, and they encourage students to engage with a wider community. They also support students and ECRs, which is essential to a sustainable pipeline from study to academia. The EDI committee plays a key role in ensuring that these events are organised on a regular basis.	Increased engagement of all student members of the department. At least 75% of our students "Agree" in the NSS Learning Community category, the PTES Engagement category and PRES Research Culture category by July 2025. At least 90% of students "fully feel being part of the department" as measured in our department survey by July 2025.	At least twice a year.	Chair of the EDI Committee to oversee	Assessed via departmental surveys every 3 years.
4	Actively encourage members of our department to participate in the activities	Learned societies organise many activities for staff and/or students which aim to	Incentivised networking and stronger community feeling. At least 80%	Reiterated when appropriate, at every	Departmental representatives to the learned	Assessed via departmental surveys every 3 years.

#	Action	Rationale	Objective	Timescale	Responsibility	Review
	and workshops of the learned societies in the mathematical sciences, such as the London Mathematical Society and the Royal Statistical Society.	promote diversity in academia. These gather mathematicians from across the country and help infuse the feeling of a welcoming community of mathematicians.	of academic staff and of students feel well supported in their academic progression by July 2025, as measured in our department survey.	new opportunity. Ongoing since 2014.	societies to advertise Chair of the EDI Committee to monitor the results in the surveys	
5	Running departmental surveys (staff & students). Conduct statistical analyses of the data by protected characteristics (including Gender), provided the anonymity of the data is not jeopardized by small sample sizes.	Certain data relating to EDI matters is not captured by the institutional data collection. A direct consultation with the members of our departments, repeated on a 3 year basis, is a better way to assess our EDI policies and their effectiveness, or to raise matters to be discussed within the EDI Committee.	True and relevant assessment of the members of our department's feelings concerning the department's commitment to EDI principles.	By July 2022. Repeated (with adjustments) every 3 years. Occasional focussed surveys (e.g. assessing CI) as appropriate.	Chair of the EDI committee	Reviewed every 3 years, to ensure the alignment with the evolution of the Athena Swan.
6	Allocation of fair workload credit to each EDI Committee member for their contribution to supporting the Department's commitment to the AS Charter and this action plan. Workload credit to be agreed between Head of Department and EDI	The Department's commitment to the AS Charter principles must be made explicit and rewarded fairly. This must be transparent in the workload allocation model.	Each EDI Committee member fully engaged with the work of the EDI Committee in supporting the AS Charter principles and the EDI Committee objectives.	Lent 2022	Head of Department	Reviewed yearly, and adjusted if needed. Workload credit to be agreed between EDI Committee Chair and Head of Department.

	Committee Chair					

Table 2. Actions concerning the department's students.

Ref.	Action	Rationale	Success/outcome measure	Timescale for completion	Responsibility for completion	Monitoring and reviewing process (refers to the action or the outcome)
7	Consolidate our engagement with schools. (a) Align our recruitment strategy with our feeder schools. Provide sufficient funding for the activities. (b) Continue our project to send our in-house undergraduate students as Student Ambassadors to the local schools, including the Lancaster School of Mathematics. Provide sufficient funding to ensure a proactive engagement with schools.	Such outreach actions help recruit more diverse students into the mathematical sciences at university, in general. Moreover: (a) A large proportion of our undergraduates come from Lancashire, Cumbria and Yorkshire. We should increase our engagement with the schools in these regions. (b) Sending female Ambassadors, possibly to their former schools, to act as role models is likely to be a good strategy to increase our	Increase, particularly from Lancashire, Cumbria and Yorkshire, the proportion of female undergraduates admitted by the department, by October 2024, in line with or above the sector benchmark.	Ongoing: monitor the data yearly in September, and review suitability of specific actions every year.	(a) + (b) Schools Liaison Officer Head of Department responsible for decisions on funding.	School Liaison Officer and Undergraduate Director of Admissions to assess using the data on admissions, and review our strategy if and when appropriate.

		recruitment of female undergraduates. In addition, the recently created Lancaster School of Mathematics provides an excellent opportunity to encourage local talented school students to study mathematics at university.				
8	Conduct a yearly review of the publicity material for student recruitment: brochures, department website and social media for undergraduate and postgraduate studies. Refresh the website and social media with at least 1-2 case studies of successful students representing a more diverse population, or who entered university with lower A-level or equivalent achievements.	To encourage a greater diversity of students to apply to our department, we need to provide concrete examples of successful students representing a more diverse population.	Increase the number of applications of female undergraduate and postgraduate research students to at least the sector benchmark by October 2024. Increase the number of participants to Open Days.	Yearly call in January to nominate students and submit draft cases; final selection and finalisation of 2 case studies per category (UG and PGR) by 30th April; addition of 2 cases on the website by 1st September each year.	Undergraduate & Postgraduate Research Admission officers to coordinate the process with the Recruitment, Conversion and Marketing Staff, and EDI Chair to moderate the quality. Web officer to update the website and social media.	EDI Committee to monitor the admission data for undergraduate and postgraduate students on a yearly basis and compare it to the sector benchmark.
9	Allocate by opt-in invitation to all undergraduate students a Study group mentor (volunteering Part II undergraduate student) to each first-year undergraduate	We want to prevent undergraduate students dropping out of university because of a lack of support, and in certain circumstances, students may prefer to turn to a	Improved retention rates of undergraduate students to at least 90%, by July 2024. Incentivised networking	Allocation on a yearly basis in October.	Director of Undergraduate Teaching to coordinate the process and Maths Teaching Admin	Refers to outcome (a): Director of Undergraduate Teaching to monitor the non-completion data yearly. Refers to outcome (b): EDI Committee to monitor the

	student.	peer student to express their concerns. Since introdcuing this action in 2018, the latest NSS results suggest that allocating upper-years to first year groups might have an effect, since our community scores jumped up last year (score relative to the rest of the sector), and the 2021 graduating cohort was the first one to have experienced the team activities as first years, with upper-year leaders.	and stronger community feeling. At least 90% of students "fully feel being part of the department" by July 2025, as measured in our department survey. At least 75% of our students "Agree" in the NSS Learning Community category, the PTES Engagement category and PRES Research Culture category, by July 2025.		Team to handle the communications.	community feeling via departmental culture survey every 3 years.
10	During undergraduate Open Days and Applicant Visit Days, encourage female applicants to study mathematics at Lancaster University, emphasising the benefits. Ensure a gender diverse representation of members of the departments participating in these activities.	We need to assert clearly our work to promote and foster the diversity in our student population, and emphasise the advantages of Lancaster, e.g., a safe campus environment, individual Academic, Peer and College Tutors, a female-friendly atmosphere and convenient public transport.	Increase the proportion of accepted offers, and eventually increase admission of female undergraduate students to 38%, or at least the sector benchmark by October 2024.	At each Open Day and Applicant Visit Day. Briefing of staff and students leading the open days on a yearly basis, before the events.	Director of Undergraduate Admissions responsible to coordinate this action (involving discussions with the Heads of Sections and the Recruitment, Conversion and Marketing Staff) and to brief staff and students involved in the Open Days and Applicant Visit Days	Director of Undergraduate Teaching to monitor the admission data for undergraduate students on a yearly basis and compare it to the sector benchmark.

11	Ensure a gender diverse representation of current Postgraduate Taught students supporting us with the University's Postgraduate Taught Admissions activities (two Open Weeks, one in December and one in February, and a Q&A session in June/July).	We need to assert clearly our work to promote and foster the diversity in our student population, and emphasise the advantages of Lancaster, e.g., a safe campus environment and family-friendly study environment.	Increase or maintain admission of female postgraduate taught students to at least the sector benchmark by 2023.	From December 2021, reviewed yearly, at the start of the academic year.	Director of Postgraduate Taught Admissions to coordinate and brief students involved in the admission's activities.	Director of Postgraduate Taught Admissions to monitor the admission data for postgraduate taught students on a yearly basis and compare it to the sector benchmark.
12	(a) Academic Tutors to encourage their suitable tutees individually to consider postgraduate research. (b) Advertise our postgraduate forums to Years 3/4 undergraduate students	This action seeks to encourage women, minority students, students from disadvantaged backgrounds, students with disabilities, and all other students who may be lacking role models in academia. By encouraging all high performing students according to an objective metric, we seek to reduce any implicit bias in academic tutoring.	Meet the national benchmark for gender diversity in the proportion of undergraduate students from the Department applying for postgraduate research studies.	Yearly, at the start of Michaelmas and Lent terms for action (a), and weekly throughout the academic year for action (b)	(a) Academic Tutor Coordinator to ask Academic Tutors. (b) Postgraduate Research students forum organisers to advertise.	EDI Committee to liaise with the Postgraduate Research Admission Officers for any EDI relevant feedback on a yearly basis and liaise with the Director of Studies.
13	Allocate a Peer Tutor to each new PhD student.	Students need to discuss some matters with their peers rather than their supervisor. Having a peer tutor also makes it easier to become part of the community. Allocating an experienced PhD student to	Maintenance of retention and completion rates for postgraduate research students in line with the sector benchmark.	Allocation of peer tutors in October, every year (or as appropriate, at the start of a PhD student).	Director of Postgraduate Research Studies to coordinate the process. EDI Committee Chair to run	Director of Postgraduate Research Studies to monitor the retention and completion data for PGR students on a yearly basis and compare them to the sector benchmark. EDI Committee to analyse the targeted surveys.

		every new starter will provide peer support and immediate access to the department's friendly PhD community.	Stronger community feeling amongst our postgraduate research student population.		targeted surveys to assess the effectiveness of this action, every 3 years.	
14	(a) Provide sufficient funding to the postgraduate-research students' seminars to invite external female speakers, in order to maintain a gender balance of at least 25% female speakers. (b) Include in the future students surveys questions measuring: - confidence in the students' presentation skills, and - degree of visibility of gender diverse role models in the department.	Since we introduced the part of this action in the postgraduate-research pure maths forum in 2016/17, the gender balance of the Pure Mathematics Postgraduate Forum has improved to about 25%, and anecdotal evidence suggests that it has raised awareness of the importance of diversity in academia in our postgraduate-research student population. The postgraduate statistics seminar, paused in the last few years, will restart in 2021/22, and the department needs to show its support in order to encourage that all our postgraduate research students gain presentation and networking skills that are essential in academia. But we also need to assess the impact of this action, and its	(a) 25% or greater ratio of female-to-male speakers in the postgraduate research students' seminars. At least 75% of our female postgraduate-research students feel confident to give talks. At least 75% of our postgraduate-research students are actively engaged with their network. At least 75% of our postgraduate research students feel that the department promotes equality, diversity and inclusion.	(a) Yearly, from October 2021. (b) January 2022, and assess by surveys every 3 years.	(a) Head of Department (for the funds). (a) + (b) Chair of the EDI to liaise with the forum organiser(s) and remind them of this action, and to run updated surveys to assess the effectiveness of this action	(a) EDI Committee Chair to liaise with the forum organiser(s) at the end of each year to monitor if/how this action has been met. Suggest appropriate measures if necessary. (b) EDI Committee to analyse the targeted surveys and assess how the departmental support influence the confidence of female PGRs, their visibility in our department, and the academic engagement activity stimulated by PGRs seminars.

		effectiveness.				
15	Female Postgraduate Research students and/or academic staff to welcome female postgraduate research applicants (campus tour, discussion of life within the department, etc)	To encourage women to apply, and show our department is committed to a supportive environment, we will use our in-house role models to reach out to the prospective new postgraduate research students. It will help increase the visibility of female early career researchers in the department, which in turn should incentivise applications from gender diverse prospective postgraduate students to come to Lancaster.	Maintain applications and registrations from female students for postgraduate research studies in line with, or above, the national benchmark (29% in 2020).	During each visit by a prospective student, from December 2021.	Postgraduate Research Admission Officer to coordinate.	Postgraduate Admissions Officer to monitor the admission data and the conversion from application-offer-acceptance; and then liaise with EDI Chair to assess.
16	Outreach and recruitment actions ready to switch and take place in virtual form if needed.	During the pandemic in 2020/21, the restrictions imposed have made in person activities impossible. We need to be ready in case of some future such situation and mitigate its impacts, in order to avoid leaving behind those most in need of encouragement.	No statistically significant decrease in numbers or in diversity in undergraduate and postgraduate admissions during a pandemic or other crisis, relative to the department's targets prior to future possible restrictions, and achievable aims within the powers of the department.	If and whenever needed, be ready to enact within a week.	Director of Undergraduate Admissions and PGT and PGR Admissions Officers	Director of Undergraduate Admissions and PGT and PGR Admissions Officers to monitor the variations during such crisis, and liaise with the EDI Chair.

Ref.	Action	Rationale	Success/outcome measure	Timescale for	Responsibility for	Monitoring and reviewing
17	Pastoral care and teaching activities ready to switch and take place in virtual form if needed. Consider adapting the Postgraduate Taught programme teams to other cohorts of students as a means to monitor student engagement and wellbeing.	During the pandemic in 2020/21, the restrictions imposed have made in person activities on campus impossible. These restrictions particularly affect vulnerable students. Our Postgraduate Taught community have maintained programme Teams from 20/21 as these provided a useful way to engage with students, allowing real-time and visible student feedback and staff responses.	Maintenance of retention rates in undergraduate and postgraduate student populations compared to the department's targets (in line with sector benchmark) during a pandemic or other crisis, relative to the department's targets prior to future possible restrictions, and achievable aims within the powers of the department. <5% increase in the number of intercalations during such periods	If and whenever needed, be ready to enact within 2 days	Directors of Undergraduate Teaching and Postgraduate Studies (teaching), and Academic Adviser Coordinator (pastoral care).	Directors of Undergraduate Teaching and Postgraduate Studies to monitor the variations during a crisis, and liaise with the EDI Chair.

Table 3. Actions concerning the recruitment of academic staff

Ref.	Action	Rationale	Success/outcome measure	Timescale for	Responsibility for	Monitoring and reviewing

				completion	completion	process (refers to the action or the outcome)
18	(a) As an ongoing process, invite female researchers, potential applicants for an indefinite academic post, to give talks in department seminars, and if appropriate, encourage them to apply for those positions when such posts are advertised. (b) When advertising for indefinite academic positions, distribute the advertisement via mailing lists of diversity networks (such as the European Women in Maths), emphasising our commitment to promote a family-friendly work environment. (c) Ensure that all staff on hiring panels have completed the recruitment training ("Recruiting the best"), and that each panel is gender	Throughout each recruitment process to an indefinite academic post, the number of female applicants, shortlisted and hired are disproportionately small, especially for senior academic posts. Moreover, females who may have been encouraged to apply are either not interested, or not suitable for a post. Shifting our strategy and using seminar invitations to facilitate relationship building as an ongoing process may be a better strategy to increase the diversity of our academic staff population. The rationale for item (d) follows the same reasoning as that of action 15: it helps increase the visibility of female (role models) within the department, which emphasises a gender diverse working environment. This should help female applicants (and more generally applicants from diverse background) to come to Lancaster if offered a	At least 25% of applicants and shortlisted people for indefinite academic positions are female. At least 1 in 5 new starter for an indefinite academic post is female.	(a) + (d) From October 2021. (b) + (c) Ongoing since November 2016, reiterated at each new post opening.	(a) Seminar organiser and vacancy owners. (b)+(c)+(d) Vacancy owner	Monitored by the EDI Committee every 2 years, starting October 2021, and revised accordingly.

	diverse. (d) Female Postgraduate Research students and/or academic staff to welcome female applicants (campus tour, discussion of life within the department, etc)	post.				
19	(a) Reword the job advertisements to assert our inclusive recruitment process. Use a gender decoder tool. (b) Explore our possibilities for allowing greater flexibility around recruitment (e.g. flexible interview dates and methods, part-time options) (c) Post advertised positions on a variety of channels.	The standard format used presently by the department does not emphasise our family-friendly policies and benefits enough.	Increased by 5% the proportion of applicants from a diversity background.	Ongoing since November 2016, reiterated at each academic job opening.	Departmental Officer to oversee	Monitored every 2 years, starting October 2021, by the EDI Committee, and revised accordingly.
20	Request, collect and analyse feedback from applicants who are offered a post but then decline.	Applicants have declined the offer of an academic post, from Research Associate to Chair. Their feedback, if they are willing to provide it, may help understanding why they chose	Better understanding of the reasons why some applicants decline a job offer. Hence design of improved recruitment practices, eventually leading to at least 80% of offers accepted by 2025.	Ongoing since November 2016. Feedback collected on a voluntary basis, following every declined job	Vacancy owner	Monitored every 3 years (starting August 2018) by the EDI Committee.

				offer. Data and methods of feedback collection to be reviewed by July 2024.		

Table 4. Actions concerning the support and advancement of women's careers.

Ref.	Action	Rationale	Success/outcome measure	Timescale for completion	Responsibility for completion	Monitoring and reviewing process (refers to the action or the outcome)
21	Continue to engage actively with the University's promotions committees, and work to ensure a fair and clear promotions policy, with particular regard to part-time staff.	Our surveys show that some staff perceive a lack of clarity and possible bias in the promotion process. This may have led staff, including established female academics, to leave. As promotions are not in the gift of the department's senior management team, we need	(a) At least 85% retention of academic staff. (b) There is no statistical difference in the proportion of female and male academic staff at senior lecturer or above by 2024.	(a) Achieve target by the end of July 2023, compared to end of July 2022. (b) Achieve target by September 2024. (c) Achieve at least 67% by December 2023.	Head of Department	Monitored annually at the end of the promotions cycle

		to engage with the university in this area.	(c) Up to chair, 80% of academic staff apply for promotion within 7 years of their start of contract, or since their previous promotion.			
22	Collect feedback from leavers.	Understanding the drivers which result in staff leaving the department should help us devise a strategy to increase staff retention. At present, information is scarce and often speculative. The feedback can only be collected on a voluntary basis.	Better understanding of the reasons why staff decide to leave the department. Hence modifications, if possible, of policies and practices in the department that will eventually lead to: (i) At least 85% retention of academic staff. (ii) Lose no more than 2 female members of academic staff over 5 years.	Ongoing. Data and methods of feedback collection to be reviewed by September 2022. Feedback collected whenever feasible.	Head of Department	Reviewed every 2 years from 18/19. Methods of feedback collection to be revised accordingly too.
23	Ensure all line managers attend the university's training for PDR reviewers.	The role of line manager is important for staff induction and progression. It is crucial that line managers are able to provide guidance, encouragement and advice to their staff.	100% of staff feel well supported throughout their professional progression. 100% of line managers undertake the university's training for reviewers within the year they are appointed.	Improve staff satisfaction regarding career progression support by December 2025. Improve completion of training to target by September 2024.	Head of Department	Monitored yearly in September by the Head of Department.

24	At least one member of the department's promotions committee is a female academic staff at senior lecturer level or above. (That is, at least one Group Lead, Head of Section or Head of Department is female).	We extended membership of the department's promotion committee to one female academic staff (senior lecturer) in 2017. Since then, we have seen an increase of academic staff applying for promotion, and in particular female academic staff.	The proportion of academic staff at senior lecturer or above, within female academic staff compared to that within male academic staff are within five percentage points of each other by 2024.	Ongoing since 2017. Keep a gender diverse Promotion Committee each year.	Head of Department	Monitored annually at the end of the promotions cycle by the Head of Department.
25	Line managers to discuss progression during the PDR meetings.	Survey responses show that too few staff have a strategy for career advancement, especially promotion. Staff need to be proactively supported and encouraged to progress.	Up to chair, 80% of academic staff apply for promotion within 7 years of starting employment or since their prior promotion. In our department survey, 75% of staff feel supported in their academic progression	Ongoing since November 2016. Line managers to discuss promotion (academic staff) or reward (Professional Services Staff) yearly, at each PDR meeting. PIs to discuss academic progression with their PDRAs.	Line managers Chair of the EDI Committee (to analyse the survey responses)	Monitored annually at the end of the promotions cycle by the EDI Committee.
26	Encourage academic staff to participate in suitable Continuing Professional Development	The university's provision of continuing professional development training offers many opportunities to	Up to chair, 80% of academic staff apply for promotion within 7 years of their start of	Ongoing since November 2016. Group Leads to discuss suitable	Group Leads	Evaluated annually by the Group Leads in the PDR meetings.

	training (such as the university's *Making Professor* event).	individual staff to gain new valuable skills which support the career progression of every staff. In particular, they may help academic staff develop skills they would not develop as much if they only carry out the teaching-research-admin roles in the department.	contract, or since their previous promotion. At least 40% of academic staff up to and including senior lecturers to participate to some Continuing Professional Development training within each 24-month period.	training with their reviewee yearly at each PDR meeting, or as appropriate.		
27	Group Leads to communicate the benefits of internal and external engagement activities, and membership of Committees involved in external engagement, for personal development and promotion prospects.	Membership of internal and external engagement activities are beneficial to both the individual and the department. Improved mentoring should increase the awareness of the benefits of developing Engagement activities.	Increase in staff bringing cases for promotion with a balanced case and Engagement as the highest or joint-highest score.	Ongoing since November 2016. Group Leads to discuss with their reviewee yearly at each PDR meeting.	Group Leads	Annually from Summer Term 2017.
28	Provide department mentoring for writing grant proposals. Provide in-house research grant writing training and refreshers. Make use of the research training events organised by the university's Organisation and Educational Development	Obtaining grant income is important for academic staff and their promotion prospects, and it gives an excellent start to early career staff.	(a) 100% of new academic staff to apply to the EPSRC New Investigator Award or comparable grant scheme within the first five years of engagement. (b) 60% of research active academic staff submit a research grant	(a) Achieve by December 2024. (b) Achieve at least 50% by December 2024. (c) Achieve target by December 2025.	Director of Research to oversee Research Theme Leads to provide peer mentoring	Monitored biennially by the Head of Research.

		application every 3 years.			
		(c) At least 85% academic staff and PDRAs agree to the survey question: "I have access to good support from academic staff and from professional services staff".			
29	Ensure gender diversity in each committee in the department.	Composition of committees often depends on the workload allocations, and hence dictates the gender diversity of these committees. Ensuring that every committee is representative of the whole department is important.	Every committee in the department comprises at least 1 female academic staff and at least 1 early career researcher.	Ongoing since November 2016. Ensure gender diversity on committee yearly, when allocating workload jobs.	Head of Department	Monitored annually by the Head of Department.

Table 5: Family friendly and flexible working policies

Ref.	Action	Rationale	Success/outcome measure	Timescale for completion	Responsibility for completion	Monitoring and reviewing process (refers to the action or the outcome)
30	Provide appropriate support, including additional discretionary funds if available,	Academics must engage with the community to develop and progress. Some individuals	At least 90% of academic staff to be actively engaged with their	Ongoing since 2017. Provide such support	Heads of Section to approve expenditure from	Monitored annually by the Group Leads in PDR meetings.

to ensure all staff and PGR students can participate in conferences and external events. Encourage staff to apply for childcare grants.	may need additional support in order to travel to visit research collaborators, participate or organise conferences and workshops.	professional learning community, as evidenced by PDR returns.	whenever such situation arises.	the Section Fund Group Leads to support the engagement with research of the group members	
31 Continue to support staff returning from maternity, paternity or adoption leave, and provide appropriate financial support to allow academic, research and teaching staff to re-engage with research or scholarly activity within 12 months. Arrange for mentoring for staff returning from MPSAL by a staff who has been in a similar situation sufficiently recently (possibly in another department in the Faculty if appropriate).	Staff returning from leave may need assistance to re-connect with the research community, while resuming teaching and other duties. The department needs to demonstrate that promotes a family-friendly working environment.	100% of staff returning from maternity, paternity and adoption leave to actively re-engage with research within 12 months (indicators can be a research output or draft, contribution to a scientific meeting as speaker or organiser, submitting a research grant application, for instance)	Ongoing since November 2016. Provide such support whenever such situation arises.	Heads of Section to approve expenditure from the Section Fund Group Leads to support the re-engagement with research of their staff returning from maternity, paternity, or adoption leave	Monitored biennially by the Group Leads in PDR meetings.
32 Continue to engage with the institutional Athena Swan Implementation Group and People and Organisational Effectiveness to improve our family-friendly working policies (flexible working, transitioning	University policies aimed at improving the working conditions for staff with caring or other responsibilities are improving, and it is important to engage with this working group in order to ensure that	90% of staff in our departmental survey agree with the statement that the department provides a family-friendly working environment.	Ongoing since 2017. Meet the target by December 2025.	Chair of the EDI Committee	Monitored annually by the EDI Committee and reported at the Department Meeting.

	between part-time and full-time, for instance).	our staff are fairly treated.				
33	Ensure that workload tasks undertaken by part-time staff are proportional to their percentage of employment. Review the department workload model, with particular attention to teaching and gender bias.	In the 2019 department survey, 73% of respondent said that the workload allocation is fair, and 63% that they can manage the work allocated in the time available to them. This shows that our workload allocation model needs be improved.	At least 75% of staff in our departmental survey agree with the statement that the workload is fair, and that they can manage the work allocated in the time available to them.	Ongoing since 2016. Achieve new target by December 2025.	Head of Department	Assessed by the EDI Chair via departmental surveys every 3 years.
34	Ensure that Postdoctoral Research Associates are included in the staff communications and Teams channels	Feedback revealed that Postdoctoral Research Associates sometimes feel forgotten in the department's life because they are not included in all the communications sent out to staff.	At least 90% of Postdoctoral Researchers "fully feel being part of the department" as measured in our department survey.	From November 2021. Achieve target by December 2025.	Departmental Officer to oversee	Assessed by the EDI Chair via departmental surveys every 3 years.

General enquiries

+44 (0) 3300 416201

enquiries@advance-he.ac.uk

www.advance-he.ac.uk

Advance HE enables excellence in higher education, helping it shape its future. Within the UK and globally, Advance HE supports institutions in the areas of excellence in education, transformative leadership, equity and inclusion and effective governance. This is delivered through membership benefits (including accreditation of teaching, equality charters, research, knowledge and resources), programmes and events, Fellowships, awards, consultancy and enhancement services and student surveys.

To request copies of this report in large print or in a different format,

please contact the Marketing and Communications Team at Advance HE:

+44 (0) 3300 416201 or publications@advance-he.ac.uk