

# Athena Swan renewal application form for departments

## Applicant information

Name of institution	University of Cambridge
Name of department	Yusuf Hamied Department of Chemistry
Date of current application	July 2022
Level of previous award	Silver
Date of previous award	November 2015
Contact name	Dr Nick Bampos
Contact email	nb10013@cam.ac.uk
Contact telephone	01223 762970

Section	Words used
An overview of the department and its approach to gender equality	1592
An evaluation of the department's progress and issues	3834
Future action plan*	
Appendix 1: Culture survey data*	
Appendix 2: Data tables*	
Appendix 3: Glossary*	
<b>Overall word count</b>	<b>5428</b>

\*These sections and appendices should not contain any commentary contributing to the overall word limit

**Overall word limit: 5500 words**

## Table of Contents

<b>Applicant information</b> .....	1
<b>Section 1: An overview of the department and its approach to gender equality</b> .....	3
1. Letter of endorsement from the head of the department.....	3
2. Description of the department and its context.....	5
3. Athena Swan self-assessment process .....	6
<b>Section 2: An evaluation of the department's progress and issues</b> .....	14
1. Evaluating progress against the previous action plan .....	14
2. Key priorities for future action.....	39
<b>Section 3: Future action plan</b> .....	43
1. Action plan.....	43
<b>Appendix 1: Culture survey data</b> .....	54
<b>Appendix 2: Data tables</b> .....	58
<b>Appendix 3: Glossary</b> .....	65

# Section 1: An overview of the department and its approach to gender equality

## 1. Letter of endorsement from the head of the department



**Dr James Keeler**  
Associate Professor  
Head of Department

22<sup>nd</sup> July 2022

Dear Athena Swan team,

I am delighted to endorse our application for renewal of our Silver Athena Swan Charter award.

Our 2015 Action Plan set ambitious targets against which we have made significant progress. Successive Heads of Department have maintained a strong commitment to the principles of the Athena Swan Charter and this, alongside high engagement across the Department, has led to a significant change in our culture when it comes to issues of gender, inclusion, and diversity. I believe that the principles promoted by the Athena Swan charter are now well embedded in all our processes resulting in the advancement and greater visibility of women. Our approach has also been influential in the University, with others looking to us for examples of good practice.

The pandemic has resulted in a temporary stalling of some of our activities. Prior to March 2020 activity and engagement was high, but the day-to-day effort of keeping going under the various working restrictions inevitably took their toll. Since the start of 2022 life has been steadily returning to normal, but there are now a significant number of people who have never been in the Department in 'normal' times. We have therefore put a lot of effort into restarting our activities in order to re-engage with the whole community. The extra demands due to the pandemic have also caused us to rethink how we approach some things, and has also highlighted the need for new initiatives, such as much greater recognition of mental health needs.

We have had high response rates in the surveys run since 2015, including our most recent survey (summer 2022), and these suggest that both women and men are generally satisfied with the support and working culture in the Department. The outcomes of these consultations has also informed a range of actions and policies such as: inclusive recruitment and appointment protocols; extensive ED&I training and awareness of gender equality priorities; flexible working for staff; support during and after maternity leave; the importance of effective communication.

The data presented in our application show that since 2015 there has been an increase in the proportion of women taking undergraduate chemistry beyond the first year, and that the gender awarding gap has reduced somewhat. At the postgraduate level a greater proportion of the women who apply than men are successful in gaining admission.

The proportion of women on the academic staff rose from 12% in 2015 to 20% in 2022. There is much yet to do in achieving anything like balance, but we are aware that this is an issue for many chemistry departments. Through personal contacts we encourage as many women as possible to apply for academic posts, and make sure that the benefits of working in the department are clearly articulated. The assessment and selection process is undertaken with careful attention to issue of equality and diversity. It is worthwhile to note the high levels of satisfaction amongst the women academic staff and that almost all of them have been promoted to professorial level, some over a short period.


Yusuf Hamied Department of Chemistry  
University of Cambridge  
Lensfield Road  
Cambridge CB2 1EW

Phone : 00 44 1223 336341  
Email: hod@ch.cam.ac.uk  
Secretary (Chloe Barker): 00 44 1223 336339  
Secretary Email: hodsec@ch.cam.ac.uk

Our research support staff have expressed satisfaction with the support that has been available in the department – in particular, the options for flexible working and the generous provision of maternity/paternity leave is appreciated. We are especially proud of the support staff who have been developed and trained by us and who then go on to higher grade roles elsewhere in the University or beyond. The turnover of research support staff is low – an indicator of high levels of satisfaction.

The Department has made considerable progress since 2015, but we are aware that there is still much to do in order to fulfil our aspirations. We are determined to use all the levers we have to hand to achieve this, and I continue to give this work my very strongest support.

Yours sincerely



Dr James Keeler,  
Head of Department

Yusuf Hamied Department of Chemistry  
University of Cambridge  
Lensfield Road  
Cambridge CB2 1EW

Phone : 00 44 1223 336341  
Email: chemhod@hermes.cam.ac.uk  
Secretary (Chloe Barker): 00 44 1223 336339  
Secretary Email: chhodsec@hermes.cam.ac.uk

## 2. Description of the department and its context

We are one of the largest chemistry departments in the country and the third largest department in the university. Our research output ranks us consistently near the top of international assessments (top five in the QS World University Rankings for Chemistry) and the experience for our undergraduate students also places us near the top in related teaching rankings (e.g. Complete University Guide, THES). The success leading to such international recognition is based on an inclusive and supportive working culture which values individuals and allows members of the department to set and meet their aspirations. Our research and teaching is focussed on one site in the centre of Cambridge and we operate within the School of Physical Sciences (SPS) with which we have an excellent and productive relationship (especially in relation to Athena Swan (AS) and broader ED&I objectives) through the SPS ED&I Forum (SPS-ED&IF).

The Senior Management Team (SMT, 2F:3M) and Research Interest Group (RIG) representatives (1F:5M) promote ED&I activities and the objectives of the AS Charter. We have maintained AS as a distinct 'activity' in committees in order to maintain the momentum of our 2015 submission, but based on lessons learned the Self-Assessment Team (SAT, currently 22W:13M) will focus efforts over the next five years on a smaller set of high impact actions.

To ensure that our actions are inclusive to the experience of all members of the department, our SAT includes students and all categories of staff (*at least* 50% women). Our committee structure was streamlined in 2016 and membership reviewed in 2019 and 2021. All departmental committees list AS and ED&I as standing items on their agenda and we encourage members of those committees to discuss progress and inform future activities within their remit relating to gender representation and equality. All research groups have nominated Research Group ED&I Representatives (RG-ED&IR) through whom data, updates and useful information are highlighted and discussed within research groups. Communication from and to the SAT is achieved through the various representatives and the progress tracked against the ASAP.

**The Department:** We currently list 50 academic staff (20% women, including teaching and senior research fellows), of whom 8 are Fellows of the Royal Society (RS); 176 post-doctoral research associates (PDRAs, 32% women) and 127 Professional Support Staff (PSS, Academic Related and Assistant Staff, 44% women) (see Figure A2.1). 4 of the 7 tenured academic women are Professors (one of whom is also a Fellows of the RS) and two female teaching fellows are on permanent contracts supported by the Department.

Our Teaching Staff (2F:2M) have held senior positions in Cambridge colleges and we have supported two fixed term joint college teaching positions (1F:1M) for which advancing the objectives of our ASAP was part of the role description.

The Department supports around 338 postgraduate students (42%W) through the Postgraduate Education Team (PET, 4F:1M) that coordinates graduate recruitment, support, mentoring and education, and our postgraduates are represented on a majority of the departmental committees.

The Department hosts around 962 undergraduate students across 4 years of courses (40% Female). Despite a relatively low proportion of women academics, every effort is made to ensure that female staff present lectures in each of the four years of the degree - two of whom have been awarded the Pilkington Prize for teaching excellence, present compulsory courses over the first three years. We

include biographies and information about our department and AS actions in the lecture handouts, bookmarks, inserts, online presentations and opportunities to meet postgraduates.

**Reporting and Governance Structures:** The Department committee structure includes staff and students and ensures that all the senior committees have *at least* one female academic representative and women from other groups in the department (Figure 1).

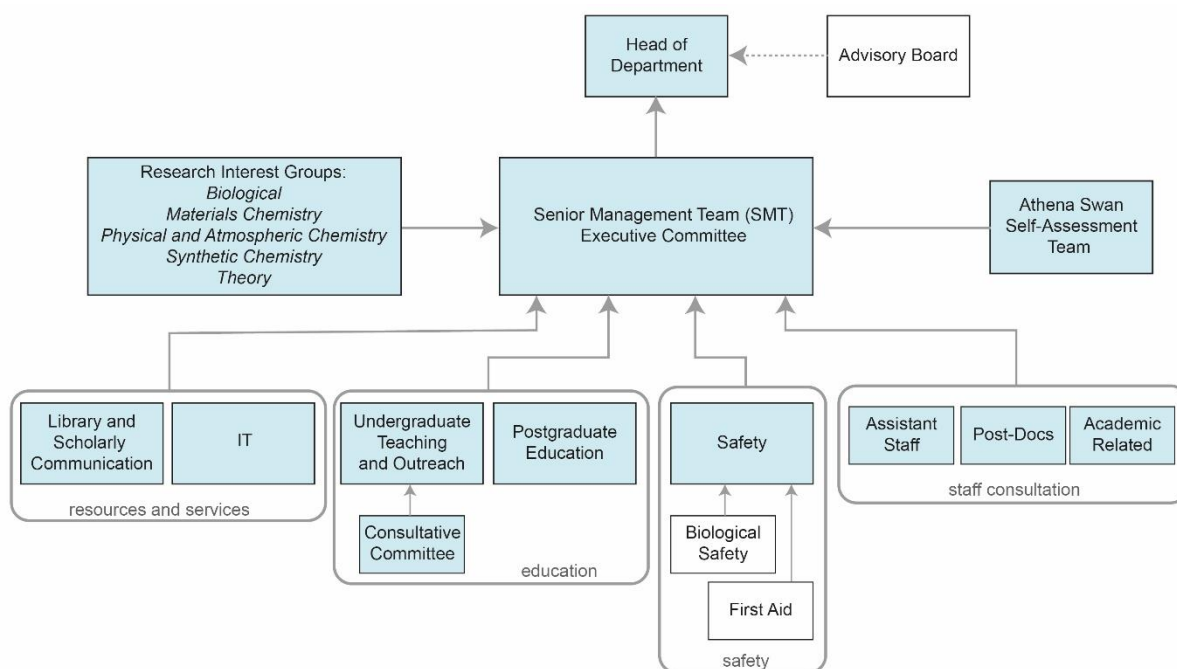


Figure 1: Departmental committee structure showing those committees (shaded blue) on which members of the SAT also sit (the HoD and DHoD between sit on all the committees) and which list AS and ED&I as a standing agenda items.

Care is taken not to overburden female academic colleagues with administrative duties (taking into account their membership of university committees that also seek to achieve gender balance) and to recruit them to departmental committees that benefit from their participation and which in turn helps with their career development and promotion opportunities.

### 3. Athena Swan self-assessment process

#### **Self-Assessment Process**

Prior to 2020 the SAT (Table 1) met every two months, however since 2020 the various lockdowns and restrictions to in-person meetings have created challenges (especially to postgraduates, PDRAs and undergraduate teaching) that have been best addressed by directing the monitoring and progress of our AP listed under four headings [S1-S4] to 'sub-groups' within the SAT (Figure 2).

Table 1: Membership of SAT identifying groups representing constituencies within the department.  
 (\* identifies members involved in the previous Silver submission)

<b>Academic Staff</b>
<p><b>*Dr Nick Bampos</b>  <i>Deputy Head of Department, Chair of SAT</i>  <i>Nick has worked across the collegiate university in roles covering many aspects of education and student and staff pastoral support; including as Senior Tutor at Trinity Hall, University ED&amp;I Champion, and Departmental Gender Champion. He believes that what makes the Department a great place to work and do research is the diverse and dedicated community of students and staff.</i></p>
<p><b>Dr Sally Boss,</b>  <i>College and Departmental Teaching Fellow</i>  <i>Sally is a Teaching Fellow whose position is shared between the Department of Chemistry and Churchill College. In the department her time is divided between teaching and research, and in college she is Deputy Senior Tutor as well as Tutor for graduate students. As a mother of two young children, and with significant teaching, administrative and pastoral responsibilities, Sally brings considerable experience around gender representation and improving the working culture in academic institutions.</i></p>
<p><b>Dr Rosana Collepardo Guevara (She/Her)</b>  <i>Interdisciplinary Associate Professor in the Departments of Chemistry and Genetics</i>  <i>Rosana works in the heavily male dominated field of theoretical chemistry, is a proud mother of two young children, and is a feminist. She is interested in highlighting the role of intersectionality within our ED&amp;I efforts. As one of the very few dark-skinned Latin American women faculty in STEM, Rosana has experienced how the intersection of gender, ethnicity, and class create additional barriers for women of colour in academia.</i></p>
<p><b>Professor Melinda Duer</b>  <i>Professor of Biological and Biomedical Chemistry</i>  <i>Melinda is the first woman appointed to a lectureship in the department and has challenged the disproportionate working load that women have to take on. She has considerable experience on appointment committees and supporting gender progression and ED&amp;I initiatives at a national and international level.</i></p>
<p><b>*Dr James Keeler</b>  <i>Head of Department</i>  <i>Having been Senior Tutor and an Admissions Tutor of Selwyn College, James brings many years of experience in undergraduate education and pastoral support, and more recently the research side of the Department and its interface with the rest of the University. He has been a consistent supporter and promotor of the Athena Swan principles as they are applied across the Department.</i></p>
<p><b>Dr Stephanie Smith (She/Her)</b>  <i>College Teaching Officer and Director of Studies</i>  <i>Stephanie has significant teaching experience across all areas of the undergraduate chemistry course, and having previously worked in Quality Assurance, also brings experience around data checking and analysis.</i></p>
<p><b>*Professor David Spring</b>  <i>Professor of Chemistry &amp; Chemical Biology</i>  <i>David has balanced his academic research career with family commitments and has considerable experience with graduate welfare and education within the department and colleges.</i></p>
<p><b>*Ms Marita Walsh</b>  <i>Support Services Manager</i>  <i>Marita has responsibility for personnel matters for all categories of staff, line managing over 100 Professional Services staff, and is responsibility for the building facilities and maintenance. She has been involved in E&amp;DI issues for over 30 years, including the past 12 years involved in TU relations for the University; most recently as chair of the University's Partnership Working Group; and is considered a champion for assistant staff issues in the University.</i></p>
<p><b>Gina Warren (She/Her)</b>  <i>University ED&amp;I Consultant, HR Division</i>  <i>Gina is a co-parent of two young children while balancing a busy portfolio supporting gender equality and ED&amp;I initiatives across the university.</i></p>

Professor Andrew Wheatley  
*Professor of Materials Chemistry*  
*Andrew is a married father of two young children who also juggles research, teaching and administration commitments across the collegiate university. He is particularly interested in enabling access routes for students and researchers from demographics that are underrepresented at Cambridge and in UK academia.*

**PSS (Academic Related Staff)**

Dr Mehrnaz Behray  
*SynTech CDT Coordinator*  
*Mehrnaz works with a diverse group of postgraduate students and helps facilitate their learning experience whilst coordinating a large network of industrial and academic contacts. As a female ethnic minority who completed her education in the UK, she values and works towards improving the pastoral wellbeing of students to help them in facing the challenges of being a postgraduate student.*

Dr Mark Farrow  
*Head of Research Operations*  
*Mark is the father of two young children, with an interest in gender equality and experience in mentoring staff in a variety of positions.*

Mr Ray Freshwater  
*Senior Technical Officer*  
*Ray provides a wide range of technical and safety support to the atmospheric science groups in the department. He works in the space between undergraduate students and professors and tries to foster a spirit of freedom of expression and inclusivity with all those he supports in his role. He has two, now grown-up, sons.*

Dr Heather Greer  
*Electron Microscopy Technical Officer*  
*Heather runs one of the core analytical facilities within the department and brings experience from working with researchers at various stages of their career from final year undergraduates to postdocs.*

Alex Kersting (She/Her)  
*Programme Manager and EDI representative on the Faraday Institution Battery Degradation Project*  
*Alex wants to ensure everyone feels they work in a safe space where they can contribute their best ideas, especially in a project that spans PhD students to academics. Personally, she has benefitted from a flexible working arrangement that has allowed her to look after her younger child one day a week.*

Dr Catherine Pitt  
*Computer Officer*  
*Catherine has a young child and has benefited for the maternity leave and flexible working arrangements in the department. She works in IT infrastructure support where the representation of women is extremely low.*

Dr Aruna Reddy (She/Her)  
*Postgraduate Admissions and Education Manager*  
*Aruna has experience in developing strategies to enhance gender balance from applicants to admissions and improving the educational environment at postgraduate level, with core interests to ameliorate student well-being.*

**PSS (Assistant Staff)**

Mr Nic Davies (He/Him)  
*Senior Floor Technician*  
*Nic has spent 35 years in the department (during which time he has become a father), starting in teaching and now on the research floors as the principal technician where he works with a diverse group of researchers from all over the world. His interactions with researchers provide a good understanding of how to affect culture change.*

Mr Duncan Howe  
*NMR Technical Officer*  
*Duncan has worked for the university for 27 years and as the father of three young children is keen to see that the best practices promoting equality, opportunity and inclusivity ensure parity across all genders and staffing categories.*



<p>Ms Jo Lockhart  <b>Science Administrator</b>  <i>Jo is very aware of the under representation of women within in the physical sciences in academia. As a mother and former secondary school science teacher, Jo has always been an advocate of encouraging students to study science at a higher level. Jo aims to be a positive role model within the department.</i></p>
<p>Ms Kathleen Pickett  <b>Welfare, Training and Development Adviser</b>  <i>Kathleen instigates and supports with wellbeing activities, development opportunities and training needs for staff and students. She wants to increase equality and diversity in these areas and with her own teaching experience and parental responsibilities, understands some of the challenges of the Education sector culture and those of creating a work-life balance. Kathleen benefits immensely from the flexible working patterns available in the department.</i></p>
<p>Ms Alice Wood  <b>Postgraduate Admissions &amp; Education Manager</b>  <i>Alice is a single parent who brings experience of developing a career in postgraduate education while juggling responsibilities in a single income household. She is invested in pilot projects within the University around widening participation in Admissions and improving the offering to postgraduate students around health and wellbeing in conjunction with the Disability Resource Centre.</i></p>
<p><b>PDRAs (Post-Docs)</b></p>
<p>Dr Svetlana Menkin Bachbut  <b>Faraday Institution (NEXTGENNa) Research Associate</b>  <i>Svetlana is an early career scientist with considerable experience in the Israeli STEM industry. She brings experience with gender equality issues and cultural confines, which are typical for women from a traditional background. Svetlana hopes to inspire others to fulfil their ambitions and not to hesitate to follow an unusual career path.</i></p>
<p>Dr Uliana Bashtanova (She/Her)  <b>Senior Postdoctoral Associate</b>  <i>Uliana worked in the male dominated engineering industry before returning to academia. In order to continue working in academia, Uliana took career breaks, changed scientific focus, retrained twice, all whilst overcoming hurdles such as moving to the UK whilst caring for elderly relatives and raising a child. For all these reasons, she wants to contribute to developing a rewarding and supportive working environment in the department.</i></p>
<p>Dr Jack Hardwick  <b>Leverhulme Early Career Fellow</b>  <i>Jack brings experience from a range of different working environments, having conducted research and teaching in several departments in the UK and abroad.</i></p>
<p>Dr Abigail Mountford  <b>Postdoctoral Associate</b>  <i>Abigail is expecting her first child after 2 and a half productive and rewarding years as a postdoc, all of which have exposed her to the challenges of working in a research environment while pregnant. Throughout her time in Cambridge, she has enjoyed teaching and engaging with outreach activities in the department.</i></p>
<p>Dr Maria Russo (She/Her)  <b>UKRI National Centre for Atmospheric Science Fellow</b>  <i>Maria is passionate about gender representation in STEM and ED&amp;I issues more broadly. She is a mother of two primary school age children and believes women should have equal opportunities of progression in research and academic careers, irrespective of their personal choices.</i></p>
<p>Mr Matthias Schneider  <b>Postdoctoral Associate</b>  <i>Matthias has supervised many undergraduate and Master students and has been committed to providing a supportive and encouraging working environment in which they all perform to the best of their abilities.</i></p>
<p>Dr Lin Su  <b>Leverhulme Early Career Fellow</b>  <i>Lin is a biologist by training, but his passion for Chemistry has inspired him to design and build bio-hybrid systems for solar energy conversion and CO2 fixation. He has experience working with diverse people and countries. Lin supports the ED&amp;I initiatives as his research group ED&amp;I officer.</i></p>

<b>Postgraduate Students</b>
<p>Ms Emilia Bushrod  <i>2<sup>nd</sup> Year PhD group ED&amp;I representative (Physical RIG)</i>  <i>As a rugby player, Emilia has faced the challenges that disproportionate gender representation generates outside of an academic setting. This, along with being the ED&amp;I contact in her research group, allows Emilia to bring experience and enthusiasm to support and improve working conditions for all within the department.</i></p>
<p>Mr Chris Haggard  <i>2<sup>nd</sup> year PhD student (Theory RIG)</i>  <i>Chris has undertaken multiple student leadership positions at the college level where he gained experience representing the interests of his fellow postgraduate students. He is passionate about ensuring positive postgraduate experiences and fostering a sense of community.</i></p>
<p>Ms Galway Ivey  <i>1<sup>st</sup> year PhD student (Chemical Biology RIG)</i>  <i>Galway was an undergraduate Natural Scientist in department, so she can offer insight into the working culture in the department from varying perspectives. Her interest in chemistry has blossomed during her time at Cambridge from an uninspiring experience of chemistry at state school – she is hence aware of the importance of outreach to inspire the younger generation of female scientists with the exciting research carried out in the department.</i></p>
<p>Ms Emma Latchem  <i>2<sup>nd</sup> year PhD student and Group ED&amp;I rep (Materials RIG)</i>  <i>Emma completed her MChem at the University of York; the Department of Chemistry at York was the first academic department in the UK to win the Athena SWAN gold award. Informed by discussions with colleagues and first-hand experience, she can provide a student perspective on gender equality in the department.</i></p>
<p>Mr Benjamin Mortishire-Smith  <i>3<sup>rd</sup> year PhD (Chemical Biology RIG)</i>  <i>Having also been an undergraduate in Cambridge, Ben is convinced that expanding diversity, representation and inclusion is critical for working environments to reach their full potential. He recognises that the success of ED&amp;I initiatives is linked to engagement from the wider postgraduate community, and is keen to encourage this amongst his peers.</i></p>
<p>Ms Teja Venkatesa-Perumal  <i>MPhil Commonwealth Scholar (Physical RIG)</i>  <i>Teja has worked with research teams in the UK, Switzerland, France, and India. She is interested in student welfare and having led student societies and sustainability initiatives (currently President of the CambridgeZero Student Academy), Teja understands how to develop inclusive and supportive working environments.</i></p>

<b>Undergraduate Students</b>
<p>Mr Bence Csakany  <i>2<sup>nd</sup> Year (Double Chemistry)</i>  <i>Bence came to Cambridge with the intention being a physicist but switched to chemistry for the department.</i></p>
<p>Ms Iulia Hort  <i>4<sup>th</sup> Year</i>  <i>Iulia entered the Natural Science Tripos expecting to follow the chemistry path, and her experience have been rewarding and enjoyable enough to return as a PhD student in the department.</i></p>
<p>Ms Heledd Jones  <i>1<sup>st</sup> Year</i>  <i>Heledd did not come to Cambridge to specialise in chemistry, but her experience was enjoyable enough for her to consider doing so next year.</i></p>
<p>Mr Pawel Lisowski  <i>1<sup>st</sup> Year</i>  <i>Pawel came to Cambridge with the intention to specialise in Material Science, but the breadth of the course has encouraged him to consider chemistry in the second year.</i></p>

Ms Sarah Kapllani Mucaj 3 <sup>rd</sup> Year <i>Sarah was admitted as a Biological Natural Scientist, but after having explored chemistry and biological papers in earlier years she gravitated to chemistry in the third year.</i>
Cherie-Anne Shi Xian Lee 2 <sup>nd</sup> Year (Double Chemist) <i>Cherie-Anne was fascinated by the synthesis new chemicals and compounds so chemistry was always first choice, and after two enjoyable years this is what she will pursue over the next two years.</i>
Alexandros Terzopoulos 4 <sup>th</sup> Year <i>For Alexandros it was chemistry from the start, and after four rewarding and stimulating years he will return for a PhD in the department.</i>

SAT groups have met once a term during core working hours, and as required between meetings, to act on initiatives or activities. While the membership of the SAT has been ‘refreshed’ every 2-3 years (undergraduate members more regularly) we recruited additional members in 2021 to support our post-Covid-19 return to normal working, and to contribute to the preparation of the submission document.

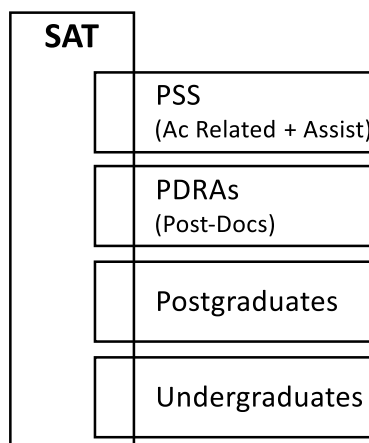


Figure 2: Schematic description of how the SAT has worked in smaller groups after 2021 (in response to Covid-19) in order to focus on the actions relevant to constituencies in the department, but progress of the ASAP has been monitored by the SAT.

The DHoD chaired the SAT and led the various consultations, and through the HoD directed communication to the relevant departmental committees. Monitoring of progress on AS Actions has been achieved through surveys and consultations (Table 2) and updates reported once a term to SMT, RIG and committee meetings.

Table 2: Overview of methods used to consult and engage with the department.

<b>Consultation Process</b>	
<i>Formal committee meetings</i>	<ul style="list-style-type: none"> <li>• AS and ED&amp;I standing agenda items.</li> <li>• Committee members consulted colleagues in their areas of the department about concerns, and resulting actions communicated back.</li> <li>• Virtual ‘breakout’ rooms (during Covid-19) to discuss actions and outcomes in more detail.</li> <li>• Key information resulting from committee business communicated the department</li> </ul>
<i>Informal consultation sessions</i>	<ul style="list-style-type: none"> <li>• Coffee and lunchtime sessions (or online 2020) organised around particular themes or actions to seek views and maximise buy-in.</li> <li>• During Covid-19 lockdowns, members of the SMT arranged online ‘coffee’ breaks with members of the department to stay connected, better understand the problems that were arising, and offer support.</li> <li>• Key outcomes or developments communicated to the department by the HoD.</li> </ul>
<i>SAT groups</i>	<ul style="list-style-type: none"> <li>• At least one meeting a term organises by DHoD with the staff and student groups (from 2021) to monitor actions and identify any developments that required additional action from the department (mostly in response to Covi-19)</li> </ul>
<i>University Staff Survey 2019, RR 64%</i>	<ul style="list-style-type: none"> <li>• Data made available to department and responses considered in details by SMT and all staff committees.</li> <li>• Comparison of data against other department through the SPS-ED&amp;IF</li> <li>• Two open meetings for all staff (about 60 of PSS and academic attended) to discuss results and address the areas that rated relatively poorly (around awareness of reporting bullying, harassment and sexual assault). Invited HR and ED&amp;I professionals to provide information and answer questions.</li> </ul>
<i>Athena Swan Undergraduate Survey (ASUS) 2021, RR 49%</i>	<ul style="list-style-type: none"> <li>• Circulated after the end of the academic year to capture a better overview of the student experience (especially useful post-2020).</li> <li>• Data presented to the undergraduate Consultative Committee and the undergraduate SAT group to assess responses and monitor against ASAP.</li> </ul>
<i>Athena Swan Culture Survey (ASCS) 2021, RR 100% academic staff, 82% PSS, 66% PDRAs, 56% postgraduates</i>	<ul style="list-style-type: none"> <li>• Responses and detailed analysis to be discussed with SAT and many groups over the summer 2022</li> <li>• Intention is to identify key outcomes, and agree time frame to activities to action for late 2022 (in time for work on a new ASAP)</li> </ul>

### ***Maintaining Momentum over the Next Five Years***

In order to maintain the momentum of work to date, after 2022 the SAT (focussing specifically on gender equality in the department) will continue as a smaller but more focussed representative group to apply lessons learned and focus efforts on a smaller set of high impact actions.

A new Working and Research Culture Committee (W&RCC) will embed the progress of our ASAP as part of a broader set of ED&I activities in collaborating with at SPS. The W&RCC (focussing on the intersectionality of factors such as gender, ethnicity, disability and mental health) will include SAT members and both will report to the SMT, RIG and Faculty meetings.

## Section 2: An evaluation of the department's progress and issues

### 1. Evaluating progress against the previous action plan

The implementation of our 2015 ASAP has enjoyed the enthusiastic support of our SMT and the involvement of students and staff on various committees and working groups. Good practices have been embedded into our working structures and lessons learned contributed to improving gender equality and to nurture an inclusive, rewarding and supportive working environment for *all* members of the Department of Chemistry.

Under four sections in our ASAP we have listed 113 **Key Outputs and Milestones** that have contributed to improving processes and embedding good practices, of which 93 (82%) have been rated Green 18 (16%) Amber and 2 (2%) Red. Of the 81 **Success Criteria and Outcomes** by which we have been able to demonstrate the impact of our work, 61 (75%) have been rated Green, 19 (23%) Amber, and 1 (1%) Red.

The considerable impact of Covid-19 created barriers (e.g. caring responsibilities, managing workloads across the collegiate university, personal and mental health issues) and disrupted engagement with many members of the department (predominantly postgraduates and PDRAs) who joined the department in early 2020.

	Planned action/ objective	Rationale	Key outputs and milestones	Success criteria and outcome
<b>SA 1 Undergraduate Students</b>				
1.1	<b>Monitor undergraduate numbers and outcomes (see actions 1.2. and 1.6 for numeric targets)</b>	<ul style="list-style-type: none"> <li>• Accurate student statistics help inform actions and better comparison with national figures.</li> <li>• Improved granularity of data (by college, subject and individual paper) provides an opportunity for the Department to understand more clearly the underlying problems and map a way forward.</li> </ul>	<ul style="list-style-type: none"> <li>☐ Establish reliable feed of data, including data for national comparisons.</li> <li>☐ Track numbers and outcomes over three years.</li> <li>☐ Preliminary review of data over summer 2016 to establish baseline.</li> </ul>	<ul style="list-style-type: none"> <li>☐ Consistent and reliable data available, including benchmark against national data. <i>[more reliable local data collection and processing]</i></li> <li>☐ Data used to inform actions (3 specific actions to be identified for implementation by September 2018), including sharing information with Colleges. <i>[(i) tracking gender trends and awarding gaps, (ii) communication information with DoSs, (iii) identify impact of raising profile of academic women in course material]</i></li> <li>☐ June 2016 – form informal working group with cognate department(s) to report within 12 months (5 recommendations for data collection, analysis, impact of proposed activities) to act-on over the next two years. <i>[through SPS ED&amp;I forum]</i></li> </ul>
1.2	<b>Encourage more female first year students to take Chemistry in the second year and beyond</b>	<ul style="list-style-type: none"> <li>• Number of female students decreases across the four years of the degree (currently from 35-40% in First Year dropping to ~25% in the Final Year).</li> </ul>	<ul style="list-style-type: none"> <li>☐ Recruitment and information events throughout the year, and especially in the final term of the first year when decisions are being made about whether or not to progress to Chemistry – to include presentations on the projects available in the final years (especially from female staff), and the range of progression routes available under the chemistry umbrella.</li> <li>☐ HoD to send a welcome message at start of 2016-17 academic year to all first year students emphasising</li> </ul>	<ul style="list-style-type: none"> <li>☐ Increase the proportion of female students studying Chemistry, especially in the second year and beyond (will focus on the third year when the level of specialisation develops, currently from 30% to &gt;35% by 2018-2019). <i>[trends across four years have achieved average of over 35% (closer to 40%). For PartIII (smaller cohorts) we see greater variation since 2015, but trend in the right direction.]</i></li> <li>☐ Approach the National average of 40% females studying chemistry by 2019. <i>[prior to 2016, %F (across all years) ~30%. Since 2016 %F (across all years) ~37% and 40% in 2022.]</i></li> </ul>

			<p>our commitment to the objectives of Athena SWAN.</p> <p><b>R</b> Adopting good practice example from Physics, by undertaking 'intention survey' at the start and end of the first and/or second Year. Will aim at 50% completion rate and seek more clarity on why students might not choose chemistry within the Natural Sciences degree.</p> <p><b>R</b> Investigate (including identifying resources) providing a 'Springboard for Chemists' programme in 2016-17 (implement 2018) to support female students continuing in Chemistry who might not otherwise do so due to a lack of confidence or awareness of career opportunities.</p>	
1.3	<b>Review undergraduate teaching to ensure no negative impact on the achievement of women</b>	<ul style="list-style-type: none"> <li>Perception that teaching styles may favour male candidates – although in the 2015 undergraduate survey 95% of respondents (42% female) indicated that there was no gender bias in the chemistry lecture courses.</li> </ul>	<p><b>G</b> Data collected (through course appraisal surveys) throughout the year about teaching material/delivery and discuss with undergraduate focus groups and T&amp;OC.</p> <p><b>A</b> Working group to be established (April 2016) to investigate (and trial) different styles of teaching and assessment, learning from good practice in other departments.</p>	<p><b>G</b> Increase number of female students continuing beyond the first year.  <i>[a clear trend to an increase in the proportion of female students beyond the first years since 2015]</i></p> <p><b>A</b> Improve survey return rate to &gt;50% (compared to 42% in 2015).  <i>[46% in 2020-21 – difficult to achieve high completion rates across the university]</i></p> <p><b>R</b> 1 survey per year (to avoid survey overload).  <i>[regular surveys achieve very low completion rates – to many surveys across the collegiate university. Rely instead on regular in-persons consultation with undergraduate groups]</i></p> <p><b>G</b> Maintain survey results suggesting that teaching has no gender bias.</p>



				<i>[in ASUS 80%W:82%M agreed in relation to supervisions, and 82%W:89%M agreed in relation to course practicals]</i>
1.4	<b>Analysis of student course selection and development of guidelines for lecturers</b>	<ul style="list-style-type: none"> <li>• Too few female lecturers available in the Department (although female lecturers now present in first year).</li> <li>• Some courses (in the third and fourth years) attract a low proportion of female undergraduates.</li> </ul>	<p><b>G</b> Analysis of student feedback to identify gender bias in course selection.</p> <p><b>G</b> Offer training to new lecturers.</p> <p><b>A</b> Offer in-house work-shops for lecturers to discuss course delivery.</p> <p><b>G</b> Inform all lecturers of the need to deliver lectures in a style that does not discourage female undergraduates (e.g. inclusive presentation style and content that highlights achievements of female scientists).</p>	<p><b>A</b> Greater understanding of student choices by 2016/17.</p> <p><i>[no clear view of how student choices are made, but continue to consult and explore through the department and within the School.]</i></p> <p><b>G</b> Actions identified and implemented in 2017/18.</p> <p><i>[inductions meetings, presentations by senior women, biographies and videos of women]</i></p> <p><b>G</b> 100% of new lecturers trained within first year in post.</p> <p><i>[all offered one-to-one advice and mentoring, and directed to university training]</i></p> <p><b>G</b> 100% lecturers aware of inclusive lecturing style.</p> <p><i>[through interaction with DRC]</i></p>
1.5	<b>E&amp;D training for all (small group) supervisors and laboratory demonstrators</b>	<ul style="list-style-type: none"> <li>• Department and Colleges rely on a diverse community of teachers throughout the academic year and degree (College staff are independent of University E&amp;D training requirements).</li> <li>• Lack of awareness of gender (and more general E&amp;D issues) may disproportionately affect female undergraduates.</li> </ul>	<p><b>G</b> Offer supervisor training at the start of every term, and inform all supervisors of on-line information and guidance.</p> <p><b>G</b> Compulsory for all first year PhD and MPhil students to participate in E&amp;D training session.</p> <p><b>G</b> Laboratory Demonstrators will be required to complete on-line E&amp;D training module as part of their induction.</p> <p><b>G</b> Recommend Colleges to require E&amp;D training completion by supervisors.</p> <p><b>G</b> Monitor feed-back from student survey.</p>	<p><b>G</b> Confirm that all first year PhD and MPhil students (who are likely supervisors and demonstrators) complete E&amp;D training module – 70% uptake by 2016-17, &gt;95% by 2017-18.</p> <p><i>[compulsory for all PhDs and MPhils through their formal induction courses, and information provided throughout the year]</i></p> <p><b>G</b> Survey College employed supervisors (starting 2016-17) to ensure that they have been encouraged to complete E&amp;D training module.</p> <p><i>[now maintain lists of supervisors and Directors of Studies, and direct them to key online courses, advice and information updates throughout the year]</i></p>
1.6	<b>Address examination performance by gender</b>	<ul style="list-style-type: none"> <li>• Survey returns suggest that female undergraduates expect to</li> </ul>	<p><b>A</b> Collect detailed data (starting June 2016), with a level of granularity (by question across all</p>	<p><b>A</b> Granular data collected and analysed in more detail by June 2016.</p>

		<p>do less well than their male colleagues.</p> <ul style="list-style-type: none"> <li>Female undergraduates underperform relative to male counterparts in both years 3 and 4</li> </ul>	<p>years) to better understand if particular papers/courses question styles affect female examination performance.</p> <p><b>A</b> Establish an examinations working group (October 2016) to look at the data and make appropriate recommendations.</p>	<p><i>[Examiners have been looking at data for awarding gaps, but greater granularity and analysis have been achieved after 2018 through centralised data and comparison with other department in the Schools, but more work to be done]</i></p> <p><b>A</b> Working group to make recommendations by Feb 2017.</p> <p><i>[recommendations could be developed prior to 2018-19, but groups now in place at School level to assess and address awarding gaps]</i></p> <p><b>A</b> Recommendations to be actioned over 2018-19.</p> <p><i>[focus has been on PartIII project assessment, all other year groups ongoing]</i></p> <p><b>G</b> Gender attainment gap reduced by 10% by 2019.</p> <p><i>[the picture is not entirely clear, but the trends tends towards a reduction of the awarding gap, however the data is not collected with the level of resolution to give statistically accurate conclusions.]</i></p>
1.7	<p><b>Outreach activity and engagement with College Admissions Tutors/Admissions Offices to encourage female students to choose chemistry in first year of Natural Sciences degree</b></p>	<ul style="list-style-type: none"> <li>A-level teaching and content may discourage women from considering chemistry as an option for their first year.</li> <li>Gender balance of staff involved in outreach activities raised aspiration of female students and encourages more female applicants.</li> </ul>	<p><b>G</b> Continue with successful Outreach activities.</p> <p><b>A</b> Offer workshops for potential female undergraduate applicants as part of Outreach activities.</p>	<p><b>A</b> Increase the proportion of female undergraduates studying Chemistry in year 1 (37% over the past four years) towards the National average (42%) by start of 2018.</p> <p><i>[subject choices influenced by college factors, but we are very close to F% consistently over 40%, but not quite there - see SA1.2 above]</i></p>

	Planned action/ objective	Rationale	Key outputs and milestones	Success criteria and outcome
<b>SA 2 Postgraduate Students</b>				
2.1	<b>Actively review postgraduate numbers</b>	<ul style="list-style-type: none"> <li>In recent years, about 40% of applicants for PhD places have been female (numbers for MPhils too small to give meaningful data).</li> <li>Recruitment events have also attracted ~40% potential applicants (in line with national average).</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Graduate Open Days to encourage more female attendees.</li> <li><b>G</b> Highlight profile of women in the department and the ASWP activities through the website.</li> <li><b>A</b> Engage with the RSC to encourage more women to apply (in Cambridge and elsewhere through their literature and conference events).</li> <li><b>G</b> Identify long term trends in MPhil applications.</li> <li><b>G</b> Work with other Departments in the SoPS to share effective recruitment strategies.</li> <li><b>G</b> Compare to national statistics.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Increase female participation at Open Days (currently 40%) by 3% per annum. <i>[current format of Open Days since 2017 provides greater visibility of activities in the Department, and %participation rates of women has been 36, 61, 40, 43 and 48 - 46% average across five years – close to 50%]</i></li> <li><b>A</b> Increase number of female applicants to 45% (currently under 40%). <i>[average 38% since 2015-16]</i></li> <li><b>G</b> Maintain the recent favourable proportion of PhD admissions relative to applications (over 40% since 2012). <i>[have maintained an average 40% within range of 6%-45% since 2015]</i></li> </ul>
2.2	<b>Greater understanding of PDRA numbers and background</b>	<ul style="list-style-type: none"> <li>The large and international PDRA community requires more detailed monitoring of gender and ethnicity statistics to take into account cultural barriers.</li> <li>Understanding the composition of the PDRA community can help 'customise' support during the time PDRAs are the Department, and better advise them about their career aspirations.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Departmental Welfare, Training and Development advisor to collect relevant data and identify groups with specific support needs.</li> <li><b>G</b> DHoD to inform and get support from HoD and SMT for initiatives that address any specific needs.</li> <li><b>G</b> PDRA focus-group(s) established by May 2016 (through PDAC) to develop appropriate support.</li> </ul>	<ul style="list-style-type: none"> <li><b>A</b> Achieve high positive response (&gt;80%) in PDRA surveys and exit questionnaires. <i>[return rates (covid affected) for exit questionnaires 50% but qualitative tracking of comments by WTDA majority positive, and for ASCS 66% with mixed responses. Excellent engagement of PDRAs with the postgraduate community prior to 2020]</i></li> <li><b>G</b> From exit surveys and focus groups identify, implement and evaluate one new initiative each year to support female PDRAs. <i>[Have implemented changes to visibility of initiatives and in our processes on a yearly basis (covid affected 2020-22) –e.g. social events to enhance interactions amongst female postgrads and PDRAs; annual Women in Chemistry events;</i></li> </ul>

				<i>'personal experience' presentations by named visiting professors (64% female since 2015)]</i>
2.3	<b>Recruitment of postgraduates and PDRAs</b>	<ul style="list-style-type: none"> <li>• Wording and information in advertisements and recruitment literature influence the gender balance of applicants.</li> <li>• Selection process risks appointing candidates 'in the image' of the interviewer.</li> <li>• Style of interviews (likely conducted by male interviewers in the predominantly male department) may unconsciously bias against female candidates.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Gender imbalance to be highlighted at all Faculty meetings.</li> <li><b>G</b> Compulsory for those recruiting, interviewing and appointing to have completed on-line E&amp;D Training module.</li> <li><b>G</b> Adverts and recruitment literature reviewed annually to ensure gender neutral language and commitment to Athena SWAN.</li> <li><b>G</b> Involve female members of staff in the appointment process.</li> <li><b>G</b> Data about recruitment and appointment process presented to the HoD and DHoD termly, and presented at Faculty meetings annually.</li> </ul>	<ul style="list-style-type: none"> <li><b>A</b> Increase the number of female applicants to above 40% over three years (currently 25% for PDRAs). <i>[%F PDRA applicants average 34% between 2016-19, but numbers drop after 2020 to ~27% (possibly BREXIT related). For postgraduate applicants average 38% over same period, see SA 2.1]</i></li> </ul>
2.4	<b>Embed mentoring and support schemes</b>	<ul style="list-style-type: none"> <li>• The mentoring scheme currently in place has not had the intended profile due to lack of communication (especially amongst students admitted before the current scheme was in place in 2013-14).</li> <li>• Lack of clarity about 'mentoring' and 'pastoral' support schemes.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> GEC to revisit the schemes to provide greater clarity based on recent consultation with focus-group.</li> <li><b>G</b> Raise profile of schemes in website and Departmental literature.</li> <li><b>G</b> Continue with October graduate 'Open Day' and track attendance by gender.</li> <li><b>G</b> HoD to write to all postgraduates to 're-launch' schemes.</li> <li><b>G</b> All new postgraduates to be informed of mentoring scheme prior to arrival.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Scheme highlighted on website and relaunched in 2016. <i>[this was done and embedded through the annual 'launch' event (except 2020-2022)]</i></li> <li><b>G</b> Achieve 100% allocation of mentors/tutors to all incoming students from October 2016. <i>[achieved 100% and celebrated every year at a 'mentors social' evening]</i></li> <li><b>G</b> Improve survey results (compared to 2015) relating to mentoring and support, including awareness. <i>[feedback for PDRAs through exit surveys and SRDs (and actions acted on as identified), and for postgraduates feedback collected at the end of every course offered in the first year (including unconscious bias, ED&amp;I, ethics, managing relationships) and feedback checked and actioned as required]</i></li> </ul>

			<p><b>A</b> Engage with Secretary of the Colleges' Graduate Tutors' Committee to make sure that the Colleges are aware of support mechanism that the Department offers.</p>	
2.5	<b>Monitor postgraduate completion rates by gender</b>	<ul style="list-style-type: none"> <li>To confirm that support mechanisms are equally applied across the department and within all research groups.</li> </ul>	<p><b>G</b> SMT and HoD to be presented with data annually to confirm that there is no gender bias in completion rates (especially within any group).</p> <p><b>G</b> HoD to address any concerns should they arise with PIs.</p>	<p><b>G</b> Confirm no gender bias in postgraduate completion rates each year.</p> <p><i>[completion rates in the department are high, and where there is an overrun (beyond four years) there is no gender disparity in the small numbers (&lt;20)]</i></p>
2.6	<b>Writing workshops for postgraduates and PDRAs</b>	<ul style="list-style-type: none"> <li>Lack of writing skills is often not addressed at the research group level.</li> <li>Difficulties writing a thesis (or research publications) at the end of a PhD discourages some from continuing in research.</li> <li>CV preparation and career applications suffer if potential candidates lack suitable writing skills.</li> </ul>	<p><b>G</b> HoGE has been developing writing work-shops for graduates as part of the Department's Graduate Education programme.</p> <p><b>G</b> Capitalise on current writing skills a part of transferable skills offered by the Department.</p> <p><b>G</b> Continue effective engagement with the Careers Service.</p>	<p><b>A</b> Increase in number of graduates staying in chemistry related fields/professions (keeping a track of gender breakdown through exit surveys).</p> <p><i>[data patchy, especially since late 2019, but there appears little disparity in gender staying in chemistry related fields, and as a chemistry degree makes graduates attractive in a range of professions, not clear there are useful conclusions to be reached from any such analysis. Ongoing work to find more effectively career tracking trajectories]</i></p> <p><b>G</b> Writing workshops introduced by early 2016. Uptake and feedback monitored by gender (aim for &gt;80% positive feedback on effectiveness of sessions through surveys).</p> <p><i>[compulsory component of first year postgraduate program]</i></p>
2.7	<b>Career progression support</b>	<ul style="list-style-type: none"> <li>Loss of female chemists going from PhD to PDRA to research/academic careers.</li> </ul>	<p><b>G</b> Career events held in the final term of the academic year for (third year) postgraduates and PDRAs to raise awareness of career options.</p>	<p><b>G</b> Improve survey results in 2018-2019 (compared to 2015) relating to career progression support by the Department - in 2015 78% of graduates, and 86% of PDRAs.</p>



		<ul style="list-style-type: none"> <li>• There is a perception that a research career is incompatible with personal/family aspirations.</li> </ul>	<p><b>G</b> Events to include female academics, female alumni (working in a range of careers) and the Careers Service.</p> <p><b>G</b> Embed the recent success of inviting visiting named lecturers to give 'personal perspective' presentations about their careers.</p> <p><b>A</b> Include question about career intentions for new PhD students and PDRAs in surveys.</p>	<p><i>[2022 ASCS response to Q5 79%F postgrads and 86% PDRAs agreed, and in Q34B 84%F postgrads and 69% PDRAs agreed.]</i></p>
2.8	<b>Exit surveys for postgraduates and PDRAs</b>	<ul style="list-style-type: none"> <li>• Lack of data about what the experience in the Department does for the next phase of the career of our female postgraduates and PDRAs.</li> <li>• Recently implemented exit surveys for PDRAs have provided useful information, however improving the completion rates (43% since 2013) and extending the process to postgraduates will better inform future initiatives.</li> </ul>	<p><b>G</b> Use exit questionnaires/ surveys to assess how Departmental activities have influenced career progression.</p> <p><b>G</b> Departmental Welfare, Training and Development advisor to circulate and track exit survey completion and data collection.</p> <p><b>G</b> Data to be presented to the ASWP and the HoD.</p> <p><b>G</b> Appropriate actions to be formulated and presented at the Faculty meetings annually.</p>	<p><b>G</b> Exit surveys analysed annually to assess impact and identify additional issues/actions <i>[we do this for PDRAs and also for postgraduates]</i></p> <p><b>A</b> Achieve completion rates greater than 50% for PDRAs and postgraduates. <i>[see SA2.2 above]</i></p> <p><b>A</b> Develop protocol for collecting career data (especially if female members of the Department stay in chemistry-related fields) by December 2016 and implement by January 2017. <i>[changes in moving from paper to online, and covid, have hindered implementation of a robust approach to collecting this data]</i></p>
2.9	<b>Introduce women support groups</b>	<ul style="list-style-type: none"> <li>• Providing women only groups to meet regularly provides a relaxed and supportive environment in</li> </ul>	<p><b>G</b> Offer termly sessions over lunch for female postgraduates, PDRAs and academics to meet informally.</p>	<p><b>G</b> Track participation over three years and evaluate annually at one of the sessions.</p>

		<p>which to share experiences and advice.</p> <ul style="list-style-type: none"> <li>• Including female chemists from various stages of careers provides a more constructive perspective about career aspirations.</li> <li>• Such groups are not exclusive, but simply respond to the clear evidence that females are underrepresented in the Department and in the field more generally.</li> </ul>		<p><i>[good and enthusiastic turn-out prior to 2020, but back to such sessions as of 2022 when in-person meeting have been possible]</i></p>
2.10	<b>Induction and welcome sessions</b>	<ul style="list-style-type: none"> <li>• Effective welcome sessions and clarity of information help postgraduates and PDRAs have a more productive and enjoyable time in the Department.</li> <li>• Postgraduates and PDRAs benefit from bespoke sessions to better address their specific working needs.</li> <li>• Sessions when people join the Department introduce them to policies (e.g. Dignity@Work, Dignity@Study, flexible working and maternity/paternity policies) and structures (e.g. mentors).</li> </ul>	<p><b>G</b> These sessions have been in place since 2014, but we have not captured all those postgraduates and PDRAs who arrived before the current structures were introduced. For these groups, sessions will be made available to bring them up to date.</p> <p><b>G</b> HoGE to embed all 'welcome' information into the Graduate Education programme.</p> <p><b>G</b> PDRA induction sessions run monthly throughout the year to capture all new arrivals.</p> <p><b>G</b> DHoD attends all induction sessions to welcome new PDRAs.</p>	<p><b>G</b> 100% attendance at all welcome meetings/sessions for new postgraduates. <i>[compulsory for all new postgraduates]</i></p> <p><b>G</b> 100% attendance at all induction meetings for new PDRAs. <i>[&gt;95% for PDRAs at the monthly induction sessions to capture people joining throughout the year and to offer an many opportunity for people to attend, especially as catch-up session. PDRAs receive a 'welcome' letter prior to arriving in Cambridge outlining key information and online resources]</i></p> <p><b>A</b> &gt;50% of current PDRAs attend catch up sessions. <i>[opportunities for such sessions available throughout the year, and working closer with the Careers Service and the University Postdoc Academy to deliver ongoing engagement and access to induction programmes. Take-up &lt;50% after first year PDRAs inductions]</i></p>

2.11	<b>E&amp;D training</b>	<ul style="list-style-type: none"> <li>Lack of E&amp;D training early in career risks future bias (conscious and unconscious) and gender imbalances.</li> </ul>	<p><b>G</b> All PDRAs and postgraduates to attend compulsory E&amp;D training session (also see action 1.5), and any other in-house work-shops that are presented (often led by developments in the University that avoid replication and driven by good practice).</p>	<p><b>G</b> Get as close to 100% completion rates for PDRAs within 4 years (currently 16% of PDRAs have completed the on-line E&amp;D module, 50% by Dec 2016, &gt;90% by December 2018).  <i>[52% in 2016 and 90% since 2018, which is one of the highest rates for PDRAs in the University]</i></p> <p><b>G</b> 100% completion rate of postgraduates  <i>[100% through the induction process and presentations such as Dignity@Study in the first year]</i></p>
------	-------------------------	---	---	--



	Planned action/ objective	Rationale	Key outputs and milestones	Success criteria and outcome
<b>SA 3 Support the recruitment, retention and promotion of female staff</b>				
3.1	<b>Increase the number of female academics</b>	<ul style="list-style-type: none"> <li>13.3% female teaching and research staff compared to 17.7% national average (HESA, 2013/14).</li> <li>Academic appointments do not come up often, so important to ensure that appointment committees are E&amp;D trained and alerted to the historical underrepresentation of women in the Department.</li> </ul>	<p><b>G</b> Actively encourage appropriately qualified female researchers to apply for vacancies.</p> <p><b>G</b> Minimum of 20% females on each recruitment shortlist.</p> <p><b>G</b> Continue (and improve) effective and inclusive recruitment and appointment processes.</p>	<p><b>G</b> Increase the number of female academics. <i>[5/41 (12%) in 2015 to 8/42 (19%) in 2022]</i></p> <p><b>G</b> Despite the low number of positions in the near future (see 2.2), use the 18% national average as a target for the next 3-5 years. <i>[from 10% in 2015 to 19% in 2022, and 20% if including Research and teaching Fellows]</i></p>
3.2	<b>Increase the number of women holding early-career fellowships</b>	<ul style="list-style-type: none"> <li>Low number of early-career academic appointments has a negative impact on later career numbers.</li> </ul>	<p><b>A</b> HoD and SMT to identify funds and available opportunities to appoint female researchers from those candidates applying for competitive research fellowships (e.g. Royal Society URF, EPSRC, BBSRC, etc) on similar terms as the bodies they applied to (e.g. length of appointment, research support).</p> <p><b>G</b> Run 'proposal preparation' and 'grant writing' workshops for those applying for fellowships.</p>	<p><b>A</b> Appoint up to 2 female early-career research fellows within three years. <i>[only one in the period despite supporting applicants for research fellowship applications]</i></p>
3.3	<b>Tackle unconscious (and conscious) bias</b>	<ul style="list-style-type: none"> <li>Fewer female teaching and research staff than male at every level.</li> </ul>	<p><b>G</b> Provide unconscious bias training for all academic staff.</p> <p><b>G</b> Use the University modules.</p>	<p><b>A</b> 100% academic staff to participate in unconscious bias programmes/ sessions by end 2017.</p>

		<ul style="list-style-type: none"> <li>Unconscious bias has been identified as the next step to address in overcoming obstacles to female recruitment, appointment, attainment and promotion.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Develop in-house sessions to address issues specific to the STEM subjects.</li> <li><b>A</b> Unconscious bias training to become part of induction and training.</li> </ul>	<p><i>[unconscious bias focus at meetings throughout the year, but developing program with SPS that is effective and relevant to the STEM subjects]</i></p>
3.4	<b>Encourage promotion opportunities for female academics</b>	<ul style="list-style-type: none"> <li>Female academics tend not to apply for promotion at the earliest opportunity</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Allocate a team of 'promotion mentors' with the specific aim of annually assessing career progression and supporting female academics in the promotion process.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Increase the number of female Senior Lecturers/Readers/ Professors - at least one promotion of the 3 eligible female academics by 2019.</li> <li><i>[2 Prof and 1 Reader in 2015 to 4 Profs and 1 Reader in 2022]</i></li> </ul>
3.5	<b>Mentoring and Staff Review &amp; Development (SR&amp;D)</b>	<ul style="list-style-type: none"> <li>Mentoring improves job satisfaction and helps structure career progression.</li> <li>Regular SR&amp;D helps highlight achievements, and is an area in which the Department failed to make progress in the last submission.</li> <li>80% of academic staff indicated in the Bronze submission that they wanted a SR&amp;D process to operate in the Department.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> Offer 'mentoring groups' for all academic staff, as a way of formalising groupings in which colleagues can talk informally about career development and share experiences relevant to their role in the Department.</li> <li><b>G</b> Put in place SR&amp;D program in which all academic staff participate biennially.</li> <li><b>G</b> Ensure PDRAs have access to regular SR&amp;D.</li> <li><b>G</b> Support School level action to collect information and review SR&amp;D process.</li> </ul>	<ul style="list-style-type: none"> <li><b>G</b> All academics to be assigned a 'mentoring group'.</li> <li><i>[achieved through the RIGs and mentoring group amongst junior academics]</i></li> <li><b>G</b> 100% academics to have been involved in SR&amp;D within three years (staggered over this period).</li> <li><i>[completing the first cycle took a little longer than three years, but now in second three year cycle]</i></li> <li>&gt;90% of PDRAs reviewed in next 2 years (currently 75%).</li> <li><i>[achieved &gt;90% by 2019, and currently all undergo SRD (accurate 'reporting' difficult for system set-up primarily for 'recording', and some SRDs still completed on paper)]</i></li> </ul>
3.6	<b>Leadership training (including university programmes)</b>	<ul style="list-style-type: none"> <li>Academics are required to take on roles and responsibilities for which they have received no formal training.</li> </ul>	<ul style="list-style-type: none"> <li><b>A</b> Continue the programme that is provided (and funded) by the Department using an external provider.</li> </ul>	<ul style="list-style-type: none"> <li><b>A</b> 80% of academic staff to have participated in leadership training by 2019, 100% by 2021.</li> <li><i>[various leadership training schemes available to all staff, and bespoke training arranged (as required). Working closely with University providers to maximise]</i></li> </ul>

		<ul style="list-style-type: none"> <li>• Leadership training benefits both the individual and the institution.</li> <li>• Department has been running a scheme since 2014, and this has proved effective and popular with all those who have taken part.</li> <li>• <i>Individual leadership training support has proven extremely effective and much appreciated.</i></li> <li>• The University runs leaderships training programmes which are more general but not as effective as Departmental schemes</li> </ul>	<p><b>A</b> Programme involves four sessions run over an academic year.</p> <p><b>A</b> Between 6-8 academics in any year makes the programme more 'participant responsive' and maximises impact.</p> <p><b>G</b> <i>At current rate, all academic members of staff will have opportunity to participate in leadership training within five years.</i></p> <p><b>G</b> All new academic staff to also be directed to the relevant University schemes.</p>	<p><i>impact of such programs to all our academics and also PDRAs – but participation &gt;50%]</i></p> <p><b>G</b> One-to-one leadership training to be offered to academic staff who request or benefit from such support.</p> <p><i>[offered and funds contributed by the department]</i></p>
--	--	--	---	---

	Planned action/ objective	Rationale	Key outputs and milestones	Success criteria and outcome
<b>SA 4 Provide a culture where everyone can succeed</b>				
4.1	<b>Promote good citizenship and an inclusive environment</b>	<ul style="list-style-type: none"> <li>Faculty meetings have provided a much needed and appreciated forum to discuss Departmental business and agree on collective objectives/aspirations.</li> <li>Rewarding good citizenships improves the working environment for all.</li> <li>We have not yet fully developed and implemented a formal 'work-load' model which would provide a better way to monitor good citizenship, although data collection has been initiated and the HoD already considers relative workloads.</li> <li>From the most recent academic survey, some colleagues were still concerned about workload and work/life balance.</li> </ul>	<p><b>G</b> Implement 'workload model' to better assess contribution to the department (which covers teaching, administration, pastoral and research) – this is one of the few actions not completed from the previous submission.</p> <p><b>G</b> Improve the distribution of workload amongst academic staff.</p> <p><b>G</b> HoD to review the Group Expectation Documents annually.</p> <p><b>G</b> Reduce the number of committees in the Department to improve governance and reduce unnecessary committee load within the 'core hours' in the Department.</p> <p><b>G</b> Ensure women are distributed across committees in order to avoid 'committee overload' and gain experience in committees that will most effectively support their career development.</p>	<p><b>G</b> Complete and implement 'work-load' model by 2016-2017. <i>[have developed a model that allows the department to assess and manage work-loads, but ongoing work with the SPS to develop a more transparent and effective model that can be used to capture commitments across the university]</i></p> <p><b>G</b> Rationalise committee structure by June 2016. <i>[done and revisited every two years]</i></p> <p><b>A</b> Transparent comparative workloads for all academic staff by October 2016. <i>[process not embedded as had been envisaged, but working with the SPS, as stated above]</i></p>
4.2	<b>Promote career pipeline options for women</b>	<ul style="list-style-type: none"> <li>Women drop-out of the chemical career pipeline because of perceived limitations in (i) their</li> </ul>	<p><b>A</b> Establish where female PDRAs go when they leave the Department (see SA 2.8).</p> <p><b>G</b> Provide career guidance sessions throughout the year, delivered by</p>	<p><b>G</b> 2 career guidance sessions offered annually (attendance and feedback monitored). <i>[prior to covid we have offered at least two such session a year for academic and research staff, and one session a year for support staff. Turnout has</i></p>

		<p>background, and (ii) career options.</p> <ul style="list-style-type: none"> <li>• Better understanding of the available options and compatibility with family/carer responsibilities should help keep women in the chemical sciences.</li> </ul>	<p>leaders in a number of fields that broaden career horizons.</p> <ul style="list-style-type: none"> <li>☒ Invite female 'industry mentors' from a broad range of professions to generate a critical mass of leading women to support our senior academics as role-models.</li> <li>☒ Use 'industry mentors' to give a better sense of working environments (e.g. mock corporate/policy meetings, board meetings, promotion meetings) in diverse professions that women tend to avoid applying to.</li> </ul>	<p><i>been strong with 30-100 attendees depending on presentation]</i></p> <ul style="list-style-type: none"> <li>☒ Identify 4 'industry mentors' by Sept 2016 and arrange 2 sessions per year that focus on 'career pipelines' for women thereafter.</li> <li><i>[2 per year from chemical and non-science professions]</i></li> </ul>
4.3	<b>Provide support for women who take maternity leave (and men on paternity leave)</b>	<ul style="list-style-type: none"> <li>• Supporting staff prior to, during, and returning from maternity leave is a key element of Departmental support for female staff.</li> <li>• Effective policy (well implemented) encourages women to stay in academia/research.</li> </ul>	<ul style="list-style-type: none"> <li>☒ Make all members of staff aware of the maternity policy.</li> <li>☒ Identify resources for practical assistance beyond the Returning Carers Scheme.</li> <li>☒ Lobby funding bodies that do not provide support for PDRAs and research fellows (through SoPS, and University HR and E&amp;D Committees) over the next two years.</li> <li>☒ Collect survey/questionnaire data from female staff taking maternity leave.</li> <li>☒ Develop case studies from staff benefitting from Returning Carers' Scheme, and publish on website by June 2016.</li> </ul>	<ul style="list-style-type: none"> <li>☒ Ensure that all staff benefit from maternity structures in the Department (monitor through staff surveys and exit questionnaires).</li> <li><i>[support well-advertised and brought to the attention of all staff eligible (including carer leave)]</i></li> <li>☒ For academics, fund cover for running research groups during maternity leave, (from Jan 2016).</li> <li><i>[we take advantage of the university Career Support Fund, and where required the department offers additional support]</i></li> <li>☒ Survey returning staff and achieve &gt;90% satisfaction rate with support received.</li> <li><i>[&gt;90% satisfaction]</i></li> <li>☒ Increase maternity return rate to &gt;80% (average over last 5 years is 63%).</li> <li><i>[since 2015, 87% return rate on 31 taking maternity leave]</i></li> </ul>
4.4	<b>Communication within the Department</b>	<ul style="list-style-type: none"> <li>• Information about opportunities/support mechanisms is generally</li> </ul>	<ul style="list-style-type: none"> <li>☒ Appointment of Web Programme Developer to restructure the departmental website and make</li> </ul>	<ul style="list-style-type: none"> <li>☒ Web Programme Developer post filled by end 2015.</li> <li><i>[post filled and the planned work completed]</i></li> </ul>

		<p>difficult to find on the Departmental website.</p> <ul style="list-style-type: none"> <li>• Access to surveys, guidelines, training opportunities, and career progression help all students make the most of the Departmental resources.</li> <li>• Clarity and accessibility of information leads to more inclusive and productive management and decision making structures.</li> <li>•</li> <li>• Clear agendas and minutes of meetings provide transparency of governance structures.</li> </ul>	<p>better use of images to highlight diversity in the Department.</p> <p><b>G</b> Streamline navigation through the website in response to focus groups and the ASWP.</p> <p><b>G</b> Use e-mail, meetings, and website content more effectively, and in particular to address AS actions.</p> <p><b>A</b> Run focus-group(s) to provide feedback on website development and improvements.</p> <p><b>G</b> Communicate and update key policies (e.g. Dignity@Work, flexible working and maternity/paternity policies).</p>	<p><b>G</b> Focus-group(s) to meet in early 2016 and again in 2017 to report on effectiveness of communication in the Department. <i>[done through standing agenda items on departmental committees]</i></p> <p><b>G</b> Monitor 'page-hits' using analytics software. <i>[have started assessing web traffic (although technology changes rapidly) and reports made available to committees]</i></p> <p><b>G</b> Website accessibility measured by incorporating suitable question in future surveys. <i>[through consultation, working-groups and through standing agenda items on departmental committees]</i></p>
4.5	<b>Communication beyond the Department</b>	<ul style="list-style-type: none"> <li>• 'Outward facing' publications, web content and social networking shape the perception of the Department as a place to work, learn and undertake research.</li> <li>• Effective communication of Departmental impact in teaching, research and professional support can have a lasting and transformative effect on engagement with the broader community and women wanting to work in science.</li> </ul>	<p><b>G</b> Appointment of Web Programme Developer will help implement features that will make the site more accessible and interactive.</p> <p><b>A</b> Focus-groups to identify areas that respond to different demographics and age groups.</p> <p><b>G</b> Chem@Cam editor to assess the content of our publications (in paper and web form) to highlight the impact of activities in the Department, particularly those from women to ensure visibility.</p>	<p><b>G</b> Focus-group(s) to meet in early 2016 and again in 2017 to report on effectiveness of communication in the Department. <i>[combination of groups and formal committee]</i></p> <p><b>G</b> Track increasing number of searches of our website and followers on Twitter. <i>[being done and ongoing process]</i></p> <p><b>G</b> Track when work in the Department is reported by media and other sites (by gender). <i>[being done and monitored by C&amp;WIC]</i></p>



4.6	<b>Committee structure</b>	<ul style="list-style-type: none"> <li>• Committee structure does not make efficient use of the members of the Department.</li> <li>• Regular scrutiny of membership and remit improves impact and effectiveness of committee business.</li> <li>• Ensure female representation on all committees.</li> <li>• Standing items ensure that key actions (e.g. from the ASWP) are dealt with accordingly.</li> <li>• Effective ASWP membership informs Departmental policy.</li> </ul>	<p><b>G</b> Restructure the committee structure to promote efficiency and better lines of communication.</p> <p><b>G</b> Include standing items in key committees (e.g. gender and E&amp;D).</p> <p><b>G</b> HoD to meet with committee Chairs annually to (i) discuss key items of business, (ii) emphasise transparency, fairness and inclusivity in all business, and (iii) sensitise Chairs about the need to give all members of committees an opportunity to participate in discussions.</p>	<p><b>G</b> Complete committee restructure by June 2016, and map success by &gt;80% positive feed-back in future surveys.</p> <p><i>[restructure complete by 2016 and assessed every two years. Positive feedback from faculty and staff committee members but no clear question in survey to give numerical analysis]</i></p> <p><b>G</b> Ensure female representation on all committees by Jun 2016.</p> <p><i>[monitored on a yearly basis]</i></p> <p><b>G</b> Avoid ‘committee overload’ of female academics by inviting female senior researchers, Teaching Fellows, and administrators to join committees as a career development opportunity.</p> <p><i>[an ongoing discussion with female colleagues to avoid committee and administrative overload compared to male colleagues]</i></p> <p><b>G</b> Refresh the ASWP membership by December 2016.</p> <p><i>[refreshed in 2016, and expanded in 2021]</i></p>
4.7	<b>Staff exit survey</b>	<ul style="list-style-type: none"> <li>• Exit questionnaires/ surveys for all staff provide valuable information about the working environment in the Department.</li> <li>• Data collected over an extended period gives a timeline of the effectiveness of actions and initiatives.</li> </ul>	<p><b>G</b> Develop exit questionnaires/ surveys for all categories of staff.</p>	<p><b>G</b> Develop a better overview of the Department for all categories of staff.</p> <p><i>[achieved through committee meetings and annual]</i></p> <p><b>G</b> Present the data annually to the ASWP and SMT, new actions result.</p> <p><i>[done on a termly basis]</i></p>
4.8	<b>Athena SWAN profile in policy development in the Department</b>	<ul style="list-style-type: none"> <li>• To highlight and track progress on key objectives and actions on an ongoing basis at the</li> </ul>	<p><b>G</b> HoD and SMT to consider ASWP minutes once a term and scrutinise progress and identify mechanisms by which to support key actions</p>	<p><b>G</b> Maximise impact of all ASWP activities and actions through committees and surveys.</p> <p><i>[done through committees, consultation groups, publications and online. Excellent return rates for University Staff Survey and AS Culture Survey]</i></p>

		<p>highest level in the Department.</p> <ul style="list-style-type: none"> <li>Engage members of staff beyond the membership of the ASWP and SMT through committee and Faculty meetings.</li> </ul>	(especially if there are resource implications).	
4.9	<b>Data collection for Athena SWAN Working Party</b>	<ul style="list-style-type: none"> <li>The recent ASWP surveys have addressed the Bronze and new Silver actions.</li> <li>Previous surveys have helped track progress on actions, but may no longer identify the areas that we should be addressing in the next cycle of work.</li> </ul>	<p><b>G</b> ASWP to review the questions about actions that future surveys need to address.</p> <p><b>A</b> Additional surveys and data collection (e.g. destination data) to be considered by the ASWP and SMT.</p>	<p><b>G</b> Use relevant data that has not been previously available to inform future actions. <i>[have improved the granularity of available data and work through the SPS ED&amp;I Forum and collaborations with other departments for specific activities]</i></p> <p><b>A</b> Use data to inform Silver to Gold Actions (identify 4 data sets for Gold application by Jan 2017 and implement collection by Mar 2017). <i>[have established that maintaining the Silver is the correct strategy for the Department, as there is still work that needs to be done to embed practices and policies for the longer term benefit of all staff]</i></p> <p><b>G</b> Maintain (or where possible improve) the high return rates for surveys (around 50% for postgraduates and PDRAs and above 90% for academic surveys leading to Silver submission). <i>[for ASCS return rates 56% for postgraduates, 66% for PDRAs and 100% for Academic Staff]</i></p>
4.10	<b>Influencing policy development outside the Department</b>	<ul style="list-style-type: none"> <li>The Department is large, diverse and has enough influence to shape gender related policy in the University and beyond.</li> <li>Working with professional bodies and industry effects lasting change for female scientists at all stages in their careers.</li> </ul>	<p><b>G</b> Engage with the SoPS and other departments about gender related policy, through one of the School Gender Champions (who is a member of the Department).</p> <p><b>G</b> Good practice identified and shared via School level E&amp;D forum and buddy system.</p> <p><b>G</b> Engage with the University Gender Working Group and E&amp;D Committee</p>	<p><b>G</b> Capture areas in which Departmental involvement has impact in gender related activities. <i>[consult working groups and various colleagues]</i></p> <p><b>A</b> Over three years of action plan, identify at least 10 examples of 'beacon activity' in support of AS by members of the Department. <i>[beacon activities include academic SRDs, undergraduate teaching material and videos, and website architecture for automatic feed of information, but this action was too ambitious]</i></p>



		<ul style="list-style-type: none"> <li>• Our academics can highlight the Departmental gender related activities, and in so doing influence a wider sphere beyond Cambridge.</li> <li>• SAP risks not taking into account personal circumstances which are likely to affect female members of staff.</li> </ul>	<p>through members of the Department who are also members of these committees/groups.</p> <p>☐ ASWP members to engage with University Athena SWAN Network. Track involvement in local and national activities (e.g. ASWP member Prof Jane Clarke is very active on the national stage highlighting issues and promoting support for women in STEMM).</p>	<p>☑ School Champion or nominated representative to attend &gt;90% of E&amp;D forum meetings and report outcomes to ASWP/HoD (SoPS Athena SWAN Buddy Scheme to be implemented in 2016).  <i>[done most effectively through SoPS ED&amp;I Forum]</i></p> <p>☑ At least one member of ASWP to attend all termly Athena SWAN Network events.  <i>[DHoD, WTDA and SSM]</i></p> <p>☑ Identify at least 2 other members of the Department to champion gender equality within and outside the University by end 2017.  <i>[HoD and Prof Melinda Duer]</i></p>
--	--	--	--	--

## Surveys

The response rate and employ engagement score for the University Staff Survey (USS) increased from 46% and 68% respectively in 2015 to 64% and 76% in 2019 (Figure A1.1). The key findings were presented to staff at two open meetings (60% attendance) at which university HR managers provided information about reporting of harassment (active bystander training) and at which we announced our policy of flexible working for all staff. In June 2021 we conducted the AS survey for undergraduates (ASUS) with a RR 49% (57%W:44%M) (Table A1.1), and in 2022 the Athena Swan Culture Survey (ASCS) achieved RR of 100% for academic staff, 82% for PSS, 66% for PDRAs and 56% for postgraduates (the majority of whom joined the department during Covid-19) (Table A1.2). The HoD had an active role in monitoring our actions and maximising the impact of our activities through the various committees, outreach activities and departmental publications [SA4.9 & SA4.10].

The key facilitators to improve gender equality and the working culture of the department have responded to the barriers that have been identified from our AS surveys, consultations and feedback from committees and focus groups (Figure 3).

Figure 3: Key Barriers and Facilitators for progress of our ASAP.

### **Barriers**

*Feeling overworked and being asked to do more; Administrative obstacles to doing research; Competing priorities; Competing for resources; Missing key information; Asking for more communication, but then complaining about getting too much; Mental health and Covid-19 related personal and professional challenges.*

### **Facilitators**

*Accessibility of SMT and dedication of SAT; Informal meetings with staff; Research Group Expectation Documents; Research Group ED&I Representatives; SRDs for all staff in the department; AS and ED&I as standing items on all departmental committee agendas; Collaboration with SPS-ED&I to share valuable information and best practise.*

## **Improving the working culture**

Members of the department were made aware of ED&I, culture change and the objectives of our ASAP during the year [SA4.8] through induction meetings, welcome letters to new members of staff [SA1.4, SA1.5, SA2.10], and exit surveys [SA2.8, SA4.7] that capture valuable feed-back for the SAT to consider.

100% of academic and PSS [SA3.5], and over 85% of PDRAs [SA2.11] completed the online ED&I training course since 2018. All postgraduates attended sessions (also available to PDRAs) on welfare and wellbeing, resilience and ethics in research, ED&I and Unconscious Bias (UB), managing professional relationships, and career development and training [SA2.10 & SA2.11] in their first year. UB sessions are offered every year to staff, but we are working with the SPS to develop more effective and relevant training for the STEMM departments [SA3.3].

Those who were involved with undergraduate teaching, and outreach activities, were provided with annually updated information through our virtual teaching platform [SA1.4], directed to ED&I and UB training [SA1.5], and encouraged to raise the profile of research carried out by women in the department (which also impacts on our outreach activities [SA1.7]).

Since 2017, we have identified senior women ‘mentors’ from the chemical or pharmaceutical industry, or alumni and departmental contact who work in other fields, invited them for in-person and online presentations, and circulated their biographies to the undergraduates. These mentors were consulted about progress in our ASAP and provided an ‘external’ check on the impact of our work.

*What a lot of thought and work has gone into it and what a lot of progress the department has made. Your data collection is impressive. You also clearly have very committed leadership and some excellent role models. It looks like you’ve made some real progress on academic appointments and the ‘personal perspective’ events sound excellent.*

*Mary Hockaday  
Controller  
BBC World Service*

*The fact that you are collating data to benchmark your progress is admirable. It was great to hear your ideas on EDI training – making it compulsory to all those that might be involved in recruitment and using bite sized on-line sessions that can be done at your convenience are suggestions we’ll take on board.*

*Dr Zoe Clyde-Watson  
Partner, Patent Attorney  
D Young & Co*

Events were organised throughout the year to enhance interaction between women in the department [SA2.9], including the annual Women in Chemistry event, the IUPAC Women in Chemistry Breakfast, and the extremely popular AS hosted career development presentations by visiting named professors (64% of whom have been women). The department has also supported junior women to participate in the RSC Joliot-Curie Conferences.



### **Recruitment**

To ensure that women apply for positions in the department, recruitment literature and web content (for postgraduates [SA2.3] and all staff [SA3.1]) were regularly updated to highlight the inclusive and supportive working culture of the department and our AS activities. Postgraduate facilitators for women included information about favourable rates of applications: offers, high completions rates, engagement with industry, and the descriptions of course during the first year, while for academic staff we highlighted the rate of promotion [SA3.4, SA4.2] and career support during maternity leave [SA4.3].

The recruitment and selection process for postgraduates and staff (and especially the gender balance) was considered by the HoD and committees throughout the year in order to better address barriers to application – (e.g. previous research experience of women and concerns about career progression).

### **SA1 Undergraduates**

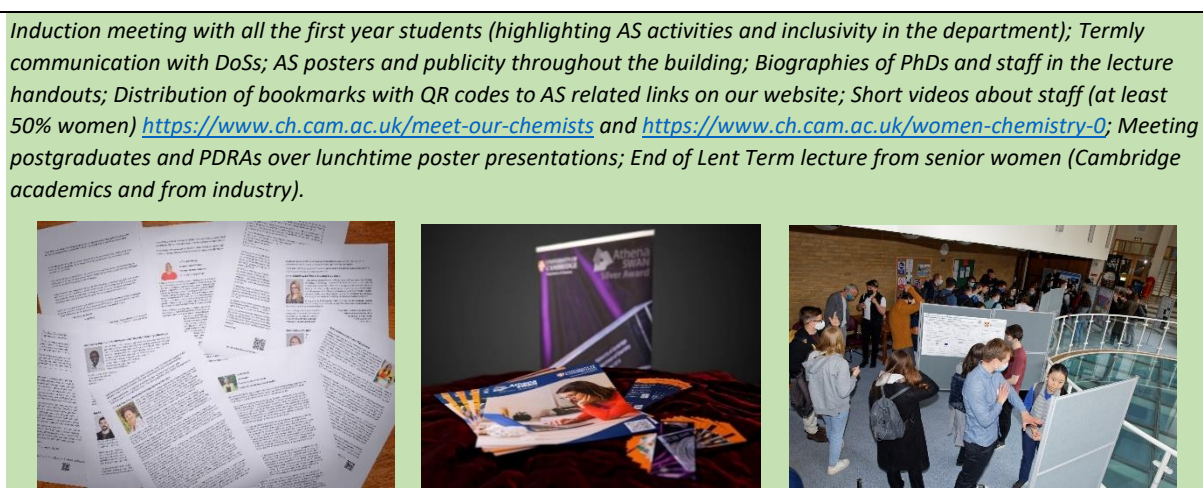
We have identified termly consultations, feedback from DoSs and staff in practical classes, and interactions at social events as the most effective ways of communication with our undergraduates -

formal survey returns tend to be low (<50%). Our data is now more reliable [SA1.1] and has allowed us to identify a small increasing in the number of women taking chemistry throughout the four years of the degree, from 36% in 2015 to 40% in 2022, but with variations within year groups and especially in PartIII [SA1.2 and SA1.3] (Figure A2.2).

<p><i>Hearing one of our female lecturer's career progression, encouraged by a department inclusivity initiative, as well as seeing many female demonstrators in the practical classes, has altered my view significantly. I really do feel that the Chemistry department are doing their utmost to make all students feel welcome and valued. I intend on taking double Chemistry for 1B, in Part II (and hopefully Part III). <b>Female First Year Undergraduate</b></i></p>	<p><i>As an international student from an underfunded regional state school, the Cambridge teaching and laboratory facilities made an immense impression on me; nonetheless, these facilities can be of little societal value if access is limited, which is why I was equally impressed to see continuously intensifying departmental efforts for equality and diversity. <b>Male Fourth Year Undergraduate</b></i></p>
<p><i>I appreciate the effort that the Chemistry Department goes to in order to improve their ED&amp;I practices; staff members listen carefully to the students' suggestions in meetings which makes us feel more included in decision-making. There are always going to be things to improve on, but the Chemistry Department is definitely on the right track! <b>Female Third Year Undergraduate</b></i></p>	<p><i>Being in a department that cares about ED&amp;I is very important to me as I believe that everyone should have the opportunity to explore the wonderful subject that is Chemistry. <b>Female Second Year Undergraduate</b></i></p>

Progress on undergraduate actions have been based on facilitators (Figure 4) developed through termly meetings with undergraduates and the students on our SAT (which are beacon activities to other department) however the period since 2020 has significantly affected the delivery and reception of teaching content.

Figure 4: Some of the high impact Facilitators that helped progress a number of key actions in SA1 (Undergraduate Students) of our ASAP.



Working with DoSs and offering sessions about how to manage revision term and examination questions, contributed to trends in reduction of the gender awarding gaps in some grades of the higher years since 2015 (Figure A2.3) [SA1.6] – since 2019 there appears to negligible gender awarding gap for PartIII I&2.1 grades.

Work over the past six years suggests that there still exist factors contributing to women underperforming in examinations (e.g. school background, course options in earlier years of degree and in high school, lack of confidence, variable college teaching, lack of encouragement prior to university), the intersectionality of which has not previously been investigated in the context of a subject in the Cambridge Natural Science degree (see future actions).

### **SA2 Postgraduates and PDRAs**

Open Days [SA2.1] for potential postgraduate applicants have been overwhelmingly positive not only for those applying to Cambridge, but for all potential research chemists, and especially women considering postgraduate careers - participation 36%W in 2017 to 48%W in 2020, (Figure A2.4).

The number of female PhD and MPhil applications still sits between 35%-40% for 2016-2020 [SA2.1], but we are pleased to have maintain a favourable proportion of offers (40%) relative to applicants [SA2.1, SA2.3] (Figure A2.5). The completion rates amongst our postgraduates has been extremely high and there is no identifiable gender difference in the small number who do not complete their degree (<20 since 2012 entry) [SA2.5].

Informed by our AS consultations we presented research and CV writing sessions throughout the year (also available to PDRAs) that specifically address advice to women who tend to underrepresent their achievements [SA2.6]. Our academic mentoring scheme launched in 2017 allocated mentors to *all* our postgraduates [SA2.4 & SA2.8] - although Covid-19 related restrictions have affected this scheme since 2020 for a 'generation' of postgraduates - high satisfaction ratings in all course surveys and gender balance in the responses [SA2.2]).

The number of PDRA applicants is just under 30%W in the period 2016-19, but on average we see an increasing number of offers (Figure A2.6) based on gender awareness issues in shortlisting and interviews. Popular monthly induction sessions [SA2.7] (attendance >95%) offer new PDRAs (who arrived throughout the year from all over the world) the opportunity to meet senior officers and staff who highlighted governance structures, research support, introduced the SPS funded member of the Careers Service dedicated to PDRA career development opportunities, and highlight ED&I and to AS activities. We also worked with the university's Postdoc Academy (meet once a year) to 'check' the impact of the work we did in the department, especially for women in our PDRA community.

### **SA3 Academic Staff**

Recruitment, retention and promotion of female academic staff was addressed at the highest level at SMT, RIG and at faculty meetings, and we have seen a significant shift in culture where male academics expressed a genuine and active interest in recruiting of women and minority ethnic academics.

The proportion of women academics has increased from 5/41 (12%) in 2015 to 8/42 (19%) in 2022 (20% including all senior research and teaching fellows) - 78%F indicated that they feel their contribution to the department is valued and 89%F that the department supports their career development. Throughout the year, the HoD identified all academic staff eligible for promotion (especially women) to ensure that they made the strongest case possible [SA3.4], and over the same period we saw an increase of senior women from two Professors and two Readers in 2015, to four Professors and one Reader in 2022 (Figure A2.7).

Mentoring has been found to be effective within the RIGs, and we operate an SRD programme (beacon level activity which we have made available to other departments) for academic staff which in the first cycle was completed in four years but is now on track to be completed within regular 2-3 year cycles [SA3.5] – SRDs for all Support Staff and PDRAs were undertaken annually (>95%).

All academic staff have had opportunity to participate in university leadership courses [SA3.6], and where bespoke training or mentoring was needed (about one a year) the department contributed to the cost of the programmes – need was identified as part of the SRD process.

For vacant academic positions colleagues actively identified and contacted suitable candidates (especially women and minority candidates) outlining the benefits of working in the department (e.g. excellent start-up packages and success in promotion of our academic women). Where possible we aimed for 40% women on recruitment shortlist, but despite our actions it has been extremely challenging to get high numbers of applicants (Table A2.1).

One way we envisaged in 2015 of increasing the number of female academic researchers was to support early-career research fellows (including mentoring in the application process) [SA3.2], and of 42 who applied (8W:24M) the success rate was 1W:2M (Table A2.2). We have now secured departmental funds for early career fellowships as a way to diversifying the academic staff (see future actions).

#### **SA4 Culture**

Since 2015, our AS work has expanded to improve the working culture for all members of the department, including our PSS (42%W) (Figure A2.1) who have also been involved in AS work and felt they belong to the department 78%W) and are valued (69%W) (Table 1.2).

We have developed a workload tracking model for academic staff and annually assessed our committee structure to improve transparency and balance the gender representation to reduce the workload of our academic women [SA4.1], all of whom are asked to also sit on a disproportionate number of university committees - we are working with the SPS to improve capturing of this information.

Where there has been a requirement to recruit women committees, rather than burdening our relatively small number of female academics, we identify postdocs or other senior women in the department to share the load and identify male colleagues prepared to advocate on behalf of our female colleagues [SA4.6].

All research groups have annually produced Group Expectation Documents (GEDs) with a focus on inclusivity and a better understanding of their working culture (in response to our ASAP), which were discussed in group meetings and submitted annually to the HoD to ensure that they were fair and reasonable.

In order to address the career pipeline for women, we offered career progression and mentoring presentations to staff, delivered by members of the department and well qualified people from outside the department (e.g. our industry 'mentors' or alumni who stayed in touch with the department to support our activities) [SA4.2].

Our maternity leave policy was visible and much appreciated by our staff [SA4.3], and senior officers met with returning parents (since 2015 31 colleagues have taken maternity leave, of which 87% have



returned to duties) to identify appropriate support and to direct academics to university schemes (which the department also contribute to).

To improve communication and visibility of our all our work we appointed a web programme developer [SA4.4 and SA4.5] and established a Communications and Web-Infrastructure Committee (C&WIC) to update our website (the underlying architecture has been shared with other departments) and to streamline navigation through the site and post images and stories which highlighted our diverse and inclusive working environment. We monitored traffic to our website (including around AS links and stories) and in 2022 we appointed a Communications Officer to improve our digital presence. Chem@Cam is our wide circulation publication for alumni and friends of the department (4600 UK and 1800 overseas readers) in which every edition included a Women in Chemistry feature and the editorial team endeavoured to achieve gender balance in the stories and images.



## 2. Key priorities for future action

Please describe the department's key issues relating to gender equality, and explain the key priorities for action.

The 2015 ASAP was exciting and ambitious, but on reflection stretched our capacity to do all the work. We made considerable progress on almost all the actions, and have now embedded good practices and policies that have changed the culture of the department to be more inclusive and responsive to issues of gender representation and progression.

The Covid-19 related challenges in 2020-21 did affect the awareness of some of the work, especially amongst what is now the majority of our postgraduates and PDRA community who join the department in the academic year 2019-2020, but since January 2022 we have taken the opportunity to relaunch our actions to capture a new generation of students and staff.

Over the next five years we intend to maintain the momentum of our previous gains and focus on a smaller set of new key priorities that have been informed by the work since 2015 and which the SAT and SMT agree are likely to have the greatest impact on women, BAME and other underrepresented groups in the department.

The four **Red** 'key outputs and milestones' and 'success criteria and outcomes' in SA1.2, SA1.3 and SA1.6 relate to Undergraduate Students actions which were identified as not serving our stated aims or better ways explored to achieve the same or better outcomes.

The majority of the **Amber** 'milestones' and 'outcomes' relate to having set very high RR for surveys and ambitious levels of data collection and monitoring in our ASAP, none of which affected the many significant **Green** advances in increasing number of women and support mechanisms. The future ASAP has been informed by the many lesson learned and designed to address the remaining **Amber** actions and consolidate gains made under four headings (future actions identified as [SAX.X]):

### **SA1 Undergraduate Students**

The Department does not recruit or admit undergraduates, and the Natural Sciences degree is designed to maximise the pathways for students to specialise across a diverse range of courses in the final years of the degree. Through our ASAP we have met 2015 aspirations on increasing the number of female students taking chemistry, providing teaching that is not considered gender biased (ASUS 81%W: 85%M [SA1.3]) and supporting and training those who are involved in teaching. While a reduction in the awarding gap has been identified [SA1.8] (due in part to the facilitators applied as part of our work), we are not convinced we fully understand the range of factors in the student experience in the department that influence awarding and continuation gaps for women, BAME and students from other underrepresented groups.

In collaboration with CCTL we will undertake an ambitious study [SA1.1] to track and investigate the experience and examination/awarding outcomes of cohorts of students (large enough to make the data statistically relevant) over the four years of the degree. The Awarding and Continuation Gap Working-Group (ACGWG) will be constituted with membership including academics from the department (representing the breadth of courses we teach), external members (academics from another department, CCTL, DRC and Counselling Service), and postgraduate representatives. As part of this study we will collaborate with at least two other UK chemistry departments to share information and outcomes. The working group will meet three times a year to identify actions, surveys and monitoring tools, and implement agreed actions. Update report will be made available to the department and the SPS-ED&IF. The scope of this project will by necessity also monitor student numbers, teaching outcomes, training for supervisors and demonstrators, and the range of engagement activities already in place (e.g. videos, information in handouts, informal meetings), all which ensure that recent gains are not lost.

Ongoing training for those who interact academically with undergraduates and raising awareness of ED&I and gender related issues was identified as an important and high impact activity under our previous ASAP and we believe should appear as a distinct action for build further on previous successes [SA1.2].

### **SA2 Postgraduate Students and PDRAs**



While there have been gains in the recruitment of postgraduate and PDRA women, we have identified barriers which impact on applicants to this and other chemistry departments. The success of raising the profile of women and their achievement at the undergraduate level has had a positive impact on numbers and reduction in the awarding gap, suggesting that we should apply a similar strategy to potential applicants for research positions [SA2.1] - while our undergraduates are 'in post' when we communicate with them, for researchers we need to identify original and creative ways to connect potential applicants with the department and better understand the productive and supportive research culture we offer.

Based on lessons learned, the department is interested in collaborating with CCTL on a project [SA2.2] to better support postgraduate supervisors in carrying out their duties. This has become all the more important (and increasingly a requirement at institutional level) after the 2020-22 Covid-19 disruptions and from postgraduate and PDRA surveys indicating that the quality of research group supervision affects the working culture (including considerations around mental health and wellbeing). As part of this work consultation groups will provide feed-back to the working group to identify training and reporting tools and to develop a scheme that is relevant to the research culture of the department.

### ***SA3 Recruitment and support of female academic staff***

Amongst our PSS we have been able to recruit, retain and (where possible) promote/reward our productive and well supported women, and the number of women academics has doubled since 2015 (many of whom have been successful promoted over short periods). The challenge in Cambridge, as in other HEI, has been to encourage a larger pool of women to apply for academic and senior research positions in the department [SA3.2]. In recent years colleagues have been actively contacting women for academic and senior research positions (e.g. RSURF), but this strategy taps into a tiny pool of women who may already have some 'link' to the department. At faculty meetings, and in discussions with PDRA's who are themselves looking for permanent academic positions, suggestions have been made about how to 'better' present the department to potential applicants. A working group of academic will gather suggestions, see what other departments are doing around the world, and present a focussed and coherent strategy for attracting more diverse pools of applicants (especially at senior professorial level) and supporting them in the department [AS3.1].

One way to address the issues outlined in [AS3.1] is an ambitious proposal to establish early career fellowships funded by the department (one every 3-4 years), comparable RSURFs in terms of tenure and research support, in order to diversify the faculty and our research profile [A3.2]. Funds have now been made available and there is genuine enthusiasm amongst the faculty to formalise a scheme and appoint the first 'departmental' research fellow within the next two years.

### ***SA4 Improving the working culture for the whole department***

We are proud of the gains made since 2015 but now need to ensure that we build on our successes in ways that matter most to the women and underrepresented groups in the department.

Most pressing is a short period of reflection to understand the impact of Covid-19 on members of the department, the majority of whom (>50% for all groups) reported that they were not aware "of the actions taken by the department to mitigate the negative impacts" on women in the department [SA4.1]. Assessing our actions over the past two years and how they were communicated will allow

us to put in place more effective provisions and present them to all members of the department (via staff meetings, presentations and the RS-ED&IR, using a 'you asked, we did' information campaign).

Data collection has proven challenging as role descriptions of administrators change, platforms and reporting tools are modified, and timelines for reporting become disrupted due to heavy workloads. Furthermore, departmental and university survey RR are low (which deprives us of valuable feedback) as there are too many circulated, often with too many questions that have little relevance to the individual. Recent years have highlighted the need to streamline our data collection processes, check accuracy, and make data available annually to relevant groups and committees to inform their work. We are proposing a way in which to achieve all this, once a year at a convenient time based on the availability of data (after the end of the academic year), and if necessary to develop the common platforms for surveys [SA4.2]. This procedural and administrative development will have an impact on all the other actions in the document relating to tracking data and trends, and informing future actions.

The outcomes of the ASAP have also highlighted the impact of our actions on supporting not only women, but also all other protected characteristics (BAME, LGBTQI+, disability) and offering the opportunity for networks to be set-up in the department and to interact with those that have been successfully established in other departments. We have done this very effectively with our Mental Health First Aiders so have the experience to make progress with this important action over a relatively short timeframe [SA4.3].

An area in need of urgent action, that has a significant impact on women, is greater awareness of ways of reporting incidents of discrimination, bullying and harassment (about 50%W for postgraduates and PDRAs indicated that they did not know how to report such incident), and generating the confidence amongst students and staff that the department takes these matters very seriously (very low RR in ASCS) [SA4.4]. Ways of reporting such incidents and supporting victims are available through the department and the university, however this action and the data from the ASAP presents an opportunity to consult widely with members of the department and use all 'tools' available to us (website, staff groups, presentations to the department, inductions, RG-ED&IRs) to raise awareness and in future ensure that surveys register a majority of staff being aware of ways of reporting and the confidence that the department will act accordingly.

## **Section 3: Future action plan**

### **1. Action plan**

.

	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe		Person responsible	Success criteria and outcome
<b>SA 1 Undergraduate Students</b>							
1.1	<b>Better understanding of awarding and continuation gaps and the student experience in chemistry</b>	<ul style="list-style-type: none"> <li>• Women underperform in examinations (gap reduced since 2015) but still short of gender balance in all grade classes.</li> <li>• Need an improved understanding of the intersectionality of various groups and factors to improve (and then maintain) the examination and progression outcomes for women and ethnic minorities.</li> <li>• Data from a more detailed study will inform factors affecting (including subject choice) the number of women chemistry.</li> <li>• Doing well in examinations improves the prospect of continuing in the subject.</li> </ul>	<ul style="list-style-type: none"> <li>• Establish a working group, in collaboration with CCTL and membership of experts outside the department, for a study to analyse examination performance based on gender, ethnicity and disability.</li> <li>• Follow a cohort of students through the four years of the degree to monitor individual experiences that may influence examination performance (at the level of individual papers).</li> <li>• 'Data' will include surveys and interviews to achieve the necessary granularity of information.</li> <li>• Collaborate with other chemistry departments (identify at least two) to compare data and practices.</li> <li>• Engage and update the DoSs on the outcomes.</li> <li>• Use outcomes of the study to inform course development and assessment criteria.</li> </ul>	Oct 2022	Sep 2026	<ul style="list-style-type: none"> <li>• ACGWG</li> <li>• HoD</li> <li>• DHoD</li> <li>• DoT</li> <li>• T&amp;OC</li> </ul>	<ul style="list-style-type: none"> <li>• ACGWG to report annually on progress (to SAT and SPS) on and final report in 2026.</li> <li>• Each year identify one potential intervention that may contribute to reduction in the awarding gap.</li> <li>• Reduction in awarding gap to statistically 'zero' by 2027.</li> <li>• Meet once a year with collaborating chemistry department to assess progress and compare outcomes.</li> <li>• Explaining the value of this study to student should improve future survey RR (&gt;60%).</li> </ul>

1.2	<b>Build on ED&amp;I and gender awareness training for supervisors and demonstrators</b>	<ul style="list-style-type: none"> <li>• Since 2016 we have seen increases in the number of women taking chemistry and positive feedback at consultation meetings and course surveys about various departmental activities making the subject more accessible to women (Q10 in ASUS about usefulness of material raising profile of women, 66%W:44%M agreed).</li> <li>• Every year we have a turn-over of supervisors and practical class demonstrators requiring ongoing training and raising awareness of the departmental activities around teaching women and also BAME students and students from other underrepresented groups.</li> <li>• Mental Health and is a priority in teaching interactions.</li> </ul>	<ul style="list-style-type: none"> <li>• Work with other departments in SPS to identify facilitators for addressing ED&amp;I and related training (including mental health) with a focus on teaching women and BAME students.</li> <li>• Consult DoSs about barriers reported to them by women and BAME students.</li> <li>• Monitor intervention from lessoned learned in the previous ASAP, and make these known to supervisors and demonstrators as a way of better communicating the department's commitment to equality of opportunity and wellbeing to all students.</li> </ul>	Oct 2022	On-going	<ul style="list-style-type: none"> <li>• DoT</li> <li>• DHoD</li> </ul>	<ul style="list-style-type: none"> <li>• Work with SPS-ED&amp;IF to collate best practices across departments and identify a contact in each department with whom to work throughout the year (Michaelmas Term 2022).</li> <li>• Meeting with the undergraduate laboratory technicians before the start of every term to plan activities and training, and monitor effectiveness of identified facilitators (high completion rates for ED&amp;I and UB &gt;90%).</li> <li>• Short information update and survey to DoSs every term to capture concerns from students (especially women, BAME and students from underrepresented groups) about the working and learning culture in the department.</li> <li>• Investigate more effective ways (e.g. time allocated in practical classes) to improve return rates on surveys (&gt;60%).</li> </ul>
-----	--	--	---	----------	----------	---	--

	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe		Person responsible	Success criteria and outcome
<b>SA 2 Postgraduate Students and PDRAs</b>							
2.1	<b>Building on our recruitment and progression for postgraduates and PDRAs</b>	<ul style="list-style-type: none"> <li>• About 45% of attendees at our postgraduate Open Days are women, and the proportion of women being offered a postgraduate place tends to be higher than the proportion of applicants, but still short of gender balance either in applications or offers.</li> <li>• Even though the number of women applying for PDRA positions has not risen significantly, here too we record a favourable shortlisting and offer rate compared to the number of applicants, but also short of gender balance.</li> <li>• Effective interview and application assessment 'training' can benefit women who tend to undersell their previous achievements.</li> <li>• Covid-19 has changed the way applicants assess departments (expect more effective online tools and presentations).</li> </ul>	<ul style="list-style-type: none"> <li>• More effective use of web content and social media to highlight the inclusive and rewarding research and working culture in the department.</li> <li>• Use ASAP outcomes (e.g. admission numbers, high completion rates and positive responses to questions in the ASCS) can encourage more women postgraduate and PDRA applicants.</li> <li>• Use the successful strategy from undergraduate courses to include biographies and research outputs from women in the department and former postgraduates and PDRAs in recruitment literature and presentations.</li> </ul>	March 2023	Aug 2023	<ul style="list-style-type: none"> <li>• PA&amp;EM</li> <li>• CoGEC</li> </ul>	<ul style="list-style-type: none"> <li>• Develop strategy with postgraduates and PDRAs to present the department more effectively on our website and social media (by March 2023).</li> <li>• Recruit recent postgraduate and PDRA women to contribute biographies, stories and videos potential applicants (summer 2023).</li> <li>• Create library of 'promotional material' that academics can use in presentations at conferences and visiting lectures.</li> <li>• Arrange a meeting once a year with the Careers Service and PostDoc Academy to assess the impact of our activities.</li> </ul>

2.2	<b>Support and training for postgraduate and PDRA supervision improves the working culture in the department</b>	<ul style="list-style-type: none"> <li>• Well informed and trained academic/research supervisors are better equipped to support their research groups.</li> <li>• Awareness of challenges faced by members of their groups (around gender, ethnicity, mental health, disability) results in a more productive and inclusive working culture.</li> <li>• Postgraduates and PDRAs have highlighted the value of training for research supervisors in surveys and consultations.</li> </ul>	<ul style="list-style-type: none"> <li>• Departmental consultation with groups of academics to identify areas of need for support (including Mental Health).</li> <li>• Working group established (by Jan 2023) with CCTL and other university groups (DRC and Counselling Service) to develop training that respond to the way people work in the department (different areas of research pose different challenges).</li> <li>• Use feedback from 2022 ASCS for postgraduate and PDRA to identify where improvements are needed most.</li> <li>• A more inclusive working environment will benefit women who have reported lower 'satisfaction' in consultations and surveys.</li> <li>• Include day-to-day supervisors in research groups (e.g. senior PDRAs) in this work.</li> </ul>	Jan 2023	Sep 2025	<ul style="list-style-type: none"> <li>• HoD</li> <li>• DHoD</li> <li>• PA&amp;EM</li> </ul>	<ul style="list-style-type: none"> <li>• Working group of recently appointed academics to develop a strategy to identify (with survey) the support and mentoring required by PIs in supervising research groups (Jan 2023).</li> <li>• Arrange 2/3 workshops with relevant university experts (e.g. DRC, Counselling Service, Careers Service) for anyone involved in research supervision to attend (100% attendance from a senior members of each research group) to be held once every 1-2 years.</li> <li>• This action should encourage better return rates for exit surveys (&gt;60%) and improved scores in culture surveys around satisfaction of supervision (&gt;75%).</li> </ul>
-----	--	--	---	----------	----------	--	---

	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe		Person responsible	Success criteria and outcome
<b>SA 3 Support the recruitment, retention and promotion of female staff</b>							
3.1	<b>Improving the recruitment process for academics (to encourage more women applicants)</b>	<ul style="list-style-type: none"> <li>The number of the women on the faculty is now 20%.</li> <li>Academic appointments do not come up often, so important to ensure that appointment committees are E&amp;D trained and alerted to the historical underrepresentation of women and BAME in the Department.</li> <li>Since 2015 we have recorded very low number of women applying for a small number of vacancies.</li> </ul>	<ul style="list-style-type: none"> <li>Improve strategy for targeting women applicants (highlighting improvements since 2015), advertisements (e.g. inclusive language, and further particulars), and work with HR to use the most relevant monitoring/recruiting tools and applying best practices.</li> <li>Arrange visits to the department of potential women applicants in research areas linked to upcoming vacancies.</li> <li>Attempt implement as many actions and facilitators as possible for the upcoming vacant lectureships.</li> </ul>	Sept 2022	Dec 2027	<ul style="list-style-type: none"> <li>HoD</li> <li>RIG Chairs</li> </ul>	<ul style="list-style-type: none"> <li>Check with SPS and HR that our advertisements and recruitment literature follows best practice (Sept 2022).</li> <li>Use all the available facilitators to increase the diversity of applicants for the upcoming lectureships (%W at least 50% greater than recorded for the past four appointments.</li> <li>Consider creating a shortlist of five women and five men (and identify suitable BAME applicants) from which to identify the final short list for interviews (by 2023).</li> <li>Collect data and discuss impact of all changes to the final outcome at SMT and faculty meetings, and identify what worked well and what could be improved (March 2023).</li> <li>'Predict' the next two vacant lectureships (by Sept 2023, based on retirements) and identify potential women and</li> </ul>



							BAME candidates for the department to host for a 'get to know' visit.
3.2	<b>Departmentally funded early career fellowship to diversify the faculty</b>	<ul style="list-style-type: none"> <li>• Low turnover of permanent staff in the department, so limited capacity to regularly recruit younger academics.</li> <li>• Increasingly more competitive to secure early career (research council or charity supported) fellowships.</li> <li>• Despite supporting women applicants for such fellowships, too few have been successful (1/9 since 2015).</li> <li>• Allow the department to diversify the faculty, both in terms of research and gender and ethnicity.</li> </ul>	<ul style="list-style-type: none"> <li>• Use departmental (endowment) funds to create a fellowship for early career academics (similar to Royal Society URF).</li> <li>• Advertise and recruit (see SA3.1) from a large and diverse pool of applicants.</li> <li>• Provide the support to allow the successful candidates to make the most of the excellent research environment in the department.</li> </ul>	Sep 2023	March 2027	<ul style="list-style-type: none"> <li>• HoD</li> <li>• SMT</li> </ul>	<ul style="list-style-type: none"> <li>• HoD to work with the academic staff to develop the details for the fellowship (to advertise in the 2023).</li> <li>• Apply recruiting strategy outlined above under 3.1.</li> <li>• Appoint one such fellow at 'regular' periods (e.g. one every three or four years)</li> <li>• Contribute to the diversity of the faculty within two such appointments (to increase number of women and BAME on faculty).</li> </ul>

	Planned action/ objective	Rationale	Key outputs and milestones	Timeframe		Person responsible	Success criteria and outcome
<b>SA 4 Improving the working culture for the whole department</b>							
4.1	<b>Mitigate impact of Covid-19 on staff</b>	<ul style="list-style-type: none"> <li>In the ASCS women (academic staff (78%) and support staff (72%)) agreed that the “departmental leadership actively supports gender equality”, however only 22% and 28% (respectively) reported that the “department had taken action to mitigate the greater negative impact the women have experienced due to the Covid-19 pandemic” (over half chose “neither agree nor disagree”).</li> <li>Better understanding of ways of working improves productivity and the working culture in the department.</li> </ul>	<ul style="list-style-type: none"> <li>Staff focus groups to identify what actions taken by the department were effective and what improvements can be made.</li> <li>Consult with staff to identify impact of flexible/agile working by gender and other protected characteristics.</li> <li>Work with the SPS to share best practice and identify interventions which in the future will respond more effectively to disruption in working conditions.</li> <li>Take into account Covid-19 impact statements in SRDs to ensure that impact does not affect reward and recognition schemes.</li> </ul>	Oct 2022	June 2024	<ul style="list-style-type: none"> <li>SSM</li> <li>WTDA</li> <li>DHoD</li> </ul>	<ul style="list-style-type: none"> <li>Complete consultation with focus groups (Jan 2023) and identify key actions.</li> <li>Take proposed actions to staff committees to maximise buy-in and SPS-ED&amp;IF for feedback (academic year 2022-23).</li> <li>SMT to act on any recommendations and implement policies (by March 2023).</li> <li>Departmental committees to assess impact of changes (survey or consultation, see 4.2 below) after a year (Dec 2023).</li> </ul>
4.2	<b>Improve data collection and processing, including ways to improve survey return rates</b>	<ul style="list-style-type: none"> <li>Local collection of data has improved since 2017, but much still comes from many different parts of the university in ways that lack resolution around gender and protected characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>Establish a data working group to list the key information that is needed on an annual basis for the department to inform policies and assess impact.</li> <li>Develop a high level overview of key surveys for</li> </ul>	Jan 2023	June 2025	<ul style="list-style-type: none"> <li>DHoD</li> <li>SSM</li> <li>WTDA</li> </ul>	<ul style="list-style-type: none"> <li>Data working group to ‘audit’ data collection processes and key surveys (Jan 2023).</li> <li>Work with SPS to identify best sources of data coming from the university (Feb 2023).</li> </ul>

		<ul style="list-style-type: none"> <li>• Survey completion rates are low because too many different platforms are used, and often too many questions are asked that lack relevance at departmental level.</li> <li>• Lack of accurate and detailed data makes understanding of key interventions (especially gender and other protected characteristics) difficult to assess.</li> </ul>	<ul style="list-style-type: none"> <li>• which high return rates are required.</li> <li>• Explain the importance of the data collected (and how it will be used) to the department to encourage high return rates – apply a ‘if you tell us, we will do’ strategy.</li> <li>• Set a date once a year for all the necessary data to be collected for use by committees.</li> <li>• Review effectiveness of the process for data collection after one year.</li> </ul>				<ul style="list-style-type: none"> <li>• Explore using a single technology platform for departmental surveys that can be used for student and staff data collection (May 2023).</li> <li>• Improve future RR for all exit surveys (&gt;60%).</li> <li>• Identify a week every year (after the examination results have been registered on the university systems) when the data working group meet and ensure that all the key data for the year has been received and been checked (by March 2023).</li> </ul>
4.3	<b>Improving the working and research culture of the department</b>	<ul style="list-style-type: none"> <li>• Greater awareness of gender, mental health, disability issues improves the working culture in the department.</li> <li>• To raise profile of activities around BAME and LGBTQ+ members of the department.</li> <li>• Engage with university initiatives around improving the research culture in departments.</li> </ul>	<ul style="list-style-type: none"> <li>• Use the ASCS responses to identify (taking into account the changes in working after Covid-19) gaps in the provisions for mental health, wellbeing, flexible working and caring responsibilities.</li> <li>• Work with committees and arrange consultation groups to identify barriers and facilitators for improving the working culture in the department.</li> <li>• Engage the RGED&amp;IRs to discuss working and research culture issues</li> </ul>	Jan 2023	On-going	<ul style="list-style-type: none"> <li>• HoD</li> <li>• DHoD</li> <li>• SSM</li> <li>• DWTDA</li> <li>• RIG Chairs</li> </ul>	<ul style="list-style-type: none"> <li>• Use the consultation with committees, working groups, SAT, RGED&amp;Rs to each list three specific suggestions that can improve the working culture in the department (Jan 2023).</li> <li>• Collate suggestions and discuss in committees, and then hold open meetings for all members of the department (by March 2023) to present actions to implement over the following year.</li> </ul>

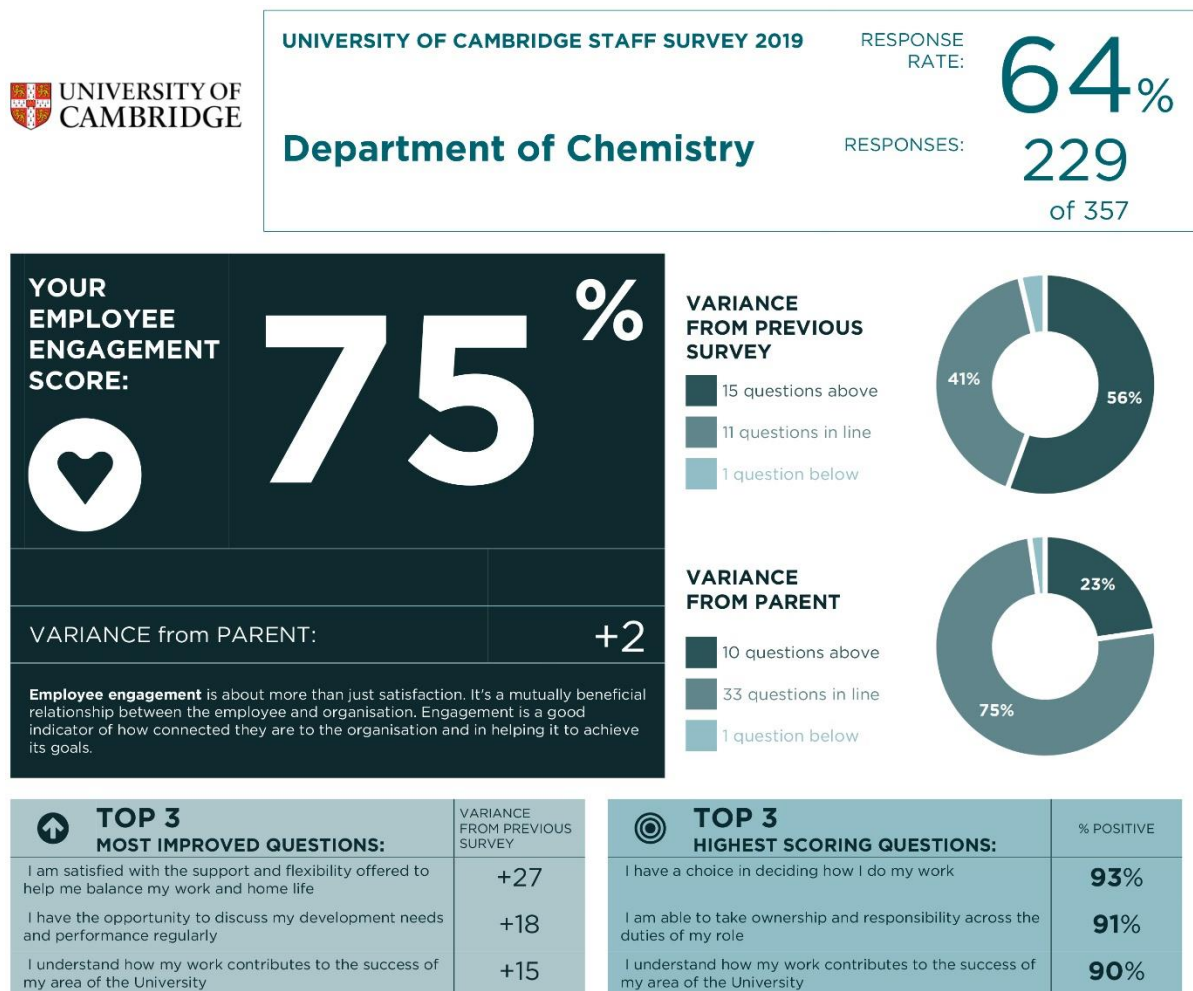
			relevant to their way of working.				<ul style="list-style-type: none"> <li>• Communicate progress as 'you said, we did' (throughout 2023).</li> <li>• Engage with the university in developing its Research Culture Institutional Action Plan and communicate actions and strategies as they arise – RIG Chairs and RGED&amp;IR will be important collaborators in this work.</li> </ul>
4.4	<b>Improve Awareness of Discrimination, Bullying and Harassment reporting and support</b>	<ul style="list-style-type: none"> <li>• In the 2019 Staff Survey 27% of all staff stated that they were not aware of the procedures for reporting bullying, harassment or sexual misconduct.</li> <li>• In the 2022 ASCS the figure for a similar question for female staff was lower (11% for academic and 6% for support staff), but much higher for female researchers (31% for postgraduates and 42% for PDRAs).</li> </ul>	<ul style="list-style-type: none"> <li>• Effective and well-developed processes and interventions are in place at university level, but need to raise awareness in the department.</li> <li>• Promote tackling bullying and harassment interventions and provide training for staff.</li> <li>• Bring an external trainer/speak to offer presentations to the department (students and staff).</li> </ul>	Oct 2022	On-going	<ul style="list-style-type: none"> <li>• HoD</li> <li>• DHoD</li> <li>• DWTDA</li> <li>• PAEM</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and collect all the relevant information for the student and staff groups in the department in time for the start of each academic year (Oct)</li> <li>• Include information sheet in all welcome packs and raise awareness of university processes and departmental support tools (from Oct 2022).</li> <li>• Presentation to academic staff at faculty meetings once a year (see SA2.3 above)</li> <li>• Invite an experienced speaker trainer in the first term of every year to talk to students and staff.</li> <li>• Raise awareness with staff through committees and meetings.</li> </ul>

							<ul style="list-style-type: none"><li>• RG-EDI&amp;Rs to be provided with information to present at groups meetings.</li></ul>
--	--	--	--	--	--	--	--

## Appendix 1: Culture survey data

Please present the results of the core culture survey questions, and if desired, the results of any additional survey questions or consultation.

Figure A1.1: Comparison of 2019 (top) and 2015 (bottom) University Staff Survey



### Summary Report for Department of Chemistry

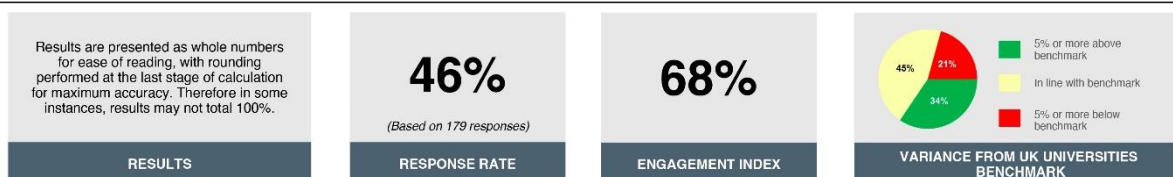


Table A1.1: Athena Swan Undergraduate Survey (ASUS, June 2020): Summary of positive and negative responses (remaining responses were neutral)<sup>†</sup>

	2021 survey % positive (% negative)		2015 survey % positive (% negative)		Change from 2015 Δ% positive (Δ% negative)	
	Men	Women	Men	Women	Men	Women
Number of responses	235	204	211	145		
Q6. I believe that undergraduate Chemistry is equally accessible to male and female students	85% (6%)	85% (14%)	95% (1%)	93% (4%)	-10%* (+5%)	-8%* (+10%*)
Q7. Chemistry course supervisions are unbiased toward male and female students	82% (9%)	80% (14%)				
Q8. Chemistry course practicals are unbiased toward women and men students	89% (1%)	82% (10%)				
Q9. Equal opportunities exist for women and men to undertake a PhD	52% (4%)	46% (13%)	59% (2%)	43% (6%)	-7% (+2%)	+3% (+7%*)
Q10. Usefulness of the biographies, video clips and opportunities to meet members of the department (PhDs, postdocs and academic members of staff) <sup>‡</sup>	45% (17%)	66% (8%)				
Q11. I believe that the Department uses both women and men as visible role models	88% (7%)	81% (13%)	66% (16%)	44% (26%)	+22%* (-9%*)	+38%* (-13%*)
Q12. If you had a problem concerning your studies in Chemistry, how comfortable would you be asking a member of the Department for help (e.g. DoS, supervisors, lecturers and teaching staff, Director of Teaching)?	88% (10%)	87% (10%)	96% (2%)	86% (5%)	-9%* (+8%)	+1% (+5%)
Q14. Consideration of the career opportunities available to me will affect/has affected the subject I will specialise/have specialised in	63% (24%)	58% (26%)	48% (24%)	46% (17%)	+15%* (-1%)	+13%* (+9%)
Q15. I consider Chemistry a "hard" subject compared to my other options within Natural Sciences	42% (26%)	49% (26%)	25% (43%)	28% (41%)	+17%* (-16%*)	+21%* (-14%*)

<sup>†</sup> For 2021, Positive = Strongly agree, Agree or Somewhat agree; Negative = Strongly disagree, Disagree or Somewhat disagree; Neutral = Neither agree nor disagree.

For 2015, there were no "somewhat agree/disagree" options, so Positive = Strongly agree or Agree, Negative = Strongly disagree or disagree, Neutral = Neither agree nor disagree.

(This classification has been used for all of the questions, even though for some, such as the last two in the table, there might not necessarily be a clear-cut choice of which answer is 'good' and which is 'bad').

<sup>‡</sup> For this question, Positive = Very useful or Useful, Negative = Not very useful or Not at all useful, Neutral = Did not engage.

\* Significant at 5% significance level (two-tailed test). Remaining changes were either not statistically significant or involved numbers that were too small to reliably test.



Table A1.2: Athena Swan Culture Survey ASCS (July 2022)

Summary of positive (Strongly agree or agree) and negative (Strongly disagree or disagree) responses by gender and role. Remaining responses were neutral (Neither agree nor disagree or Don't know).

Role*	Male % positive responses (% negative responses)				Female % positive responses (% negative responses)				Other or Prefer not to say % positive responses (% negative responses)				All % + (% -)
	AS	PDRA	PG	PSS	AS	PDRA	PG	PSS	AS	PDRA	PG	PSS	All
Number of responses	31	66	56	43	9	36	62	32	10	11	13	20	389
Q1. I feel like I belong in my department	74% (10%)	64% (11%)	71% (9%)	77% (7%)	78% (11%)	44% (17%)	60% (19%)	78% (6%)	70% (20%)	55% (27%)	46% (31%)	55% (25%)	65% (14%)
<b>Q2. My contributions are valued within my department/research group</b>	74% (10%)	79% (6%)	79% (11%)	65% (2%)	78% (0%)	72% (6%)	77% (15%)	69% (6%)	55% (18%)	55% (23%)	62% (23%)	50% (30%)	71% (11%)
Q3. I feel comfortable speaking up and expressing my opinions	74% (6%)	80% (9%)	71% (13%)	74% (7%)	67% (11%)	69% (17%)	71% (15%)	72% (16%)	90% (0%)	55% (9%)	77% (23%)	50% (35%)	72% (13%)
Q4. Departmental communications are clear and relevant to me	68% (13%)	58% (15%)	55% (14%)	67% (9%)	89% (11%)	64% (14%)	48% (21%)	72% (6%)	70% (0%)	36% (55%)	38% (38%)	45% (25%)	72% (10%)
Q5. In the department, staff are treated on their merits (e.g. fair distribution of departmental resources such as space, fair support in applying for promotion) (academic staff). OR In my research group, students and postdocs are treated on their merits irrespective of their gender (e.g. both women and men are actively encouraged to take up training opportunities, learn new skill and explore their ideas). (postdocs and postgraduates)	55% (19%)	83% (5%)	86% (11%)		56% (11%)	86% (8%)	79% (13%)		40% (30%)	73% (9%)	85% (8%)		78% (11%)
<b>Q9. Departmental leadership actively supports gender equality.</b>	81% (6%)	62% (8%)	57% (18%)	79% (0%)	78% (0%)	42% (11%)	47% (23%)	72% (3%)	80% (0%)	36% (27%)	46% (23%)	70% (5%)	61% (11%)
Q10. My department is committed to achieving gender balance in leadership positions.	61% (3%)	47% (11%)	34% (16%)	63% (5%)	78% (11%)	25% (14%)	26% (29%)	53% (0%)	60% (20%)	18% (36%)	38% (31%)	45% (10%)	43% (14%)
Q14. The department takes positive actions to encourage women to apply for posts (e.g. encouraging appropriately qualified colleagues to apply for posts, including family-friendly policies and inclusive job advertisements).	74% (6%)				78% (11%)				50% (10%)				
<b>Q15. My department has taken action to mitigate the greater negative impact that women have experienced due to the Covid-19 pandemic.</b>	16% (10%)	21% (6%)	13% (13%)	21% (9%)	22% (22%)	11% (36%)	11% (40%)	28% (13%)	30% (10%)	18% (27%)	8% (15%)	10% (10%)	17% (18%)

<b>Q17. My department enables flexible working.</b>	90% (0%)	92% (3%)	86% (5%)		100% (0%)	89% (6%)	81% (10%)		90% (0%)	73% (18%)	62% (31%)		86% (6%)
Q22. I have experienced discrimination, bullying and/or harassment in my department in the past 12 months. †	94% (3%)	88% (6%)	86% (13%)	70% (7%)	89% (11%)	89% (6%)	68% (26%)	91% (3%)	80% (20%)	45% (9%)	69% (23%)	70% (25%)	80% (12%)
Q23. I have witnessed discrimination, bullying and/or harassment in my department in the past 12 months. †	77% (13%)	77% (17%)	68% (29%)	72% (5%)	67% (11%)	72% (14%)	56% (32%)	75% (3%)	70% (20%)	9% (27%)	54% (38%)	65% (25%)	68% (19%)
Q24. I know how to report discrimination, bullying and/or harassment.	81% (16%)	50% (21%)	52% (34%)	84% (5%)	89% (11%)	44% (42%)	50% (31%)	88% (6%)	60% (20%)	45% (18%)	46% (31%)	75% (15%)	61% (23%)
Q25. Departmental management is active in tackling discrimination, bullying and harassment	58% (19%)	47% (14%)	30% (16%)	56% (7%)	22% (22%)	22% (11%)	29% (18%)	44% (6%)	50% (20%)	9% (18%)	23% (31%)	20% (30%)	37% (15%)
<b>Q26. I am satisfied with how discrimination, bullying and harassment are addressed in my department.</b>	52% (19%)	44% (15%)	23% (25%)	63% (5%)	22% (22%)	14% (6%)	32% (31%)	31% (16%)	40% (20%)	0% (27%)	31% (38%)	25% (30%)	35% (20%)
<b>Q28. The department (academic staff)/my line manager (support staff) supports my career development OR I am actively encouraged to take up career development/training opportunities (postdocs/postgrads)</b>	65% (6%)	64% (15%)	79% (9%)	72% (12%)	89% (11%)	50% (28%)	76% (5%)	63% (13%)	70% (20%)	55% (36%)	62% (15%)	40% (25%)	67% (14%)
Q33A. I am encouraged and given opportunities to present my research externally and/or internally (e.g. to my group, to my RIG, at conferences).		79% (8%)	89% (4%)			83% (6%)	85% (11%)			73% (27%)	77% (8%)		83% (8%)
Q33B. Transferable Skills and Research Development activities in the department have helped me to develop the skills I need for my future career.		41% (21%)	30% (16%)			31% (17%)	48% (18%)			27% (55%)	38% (8%)		38% (19%)
Q34A. My supervisor/PI provides me with support to undertake research in the department and develop the skills for the next steps in my career (postdocs) OR My supervisor provides me with support in completing my degree (postgraduates)		86% (6%)	80% (7%)			69% (6%)	84% (11%)			55% (9%)	69% (23%)		80% (9%)
<b>Q37. My mental health and/or wellbeing are supported in my department.</b>	52% (16%)	56% (14%)	34% (29%)	67% (2%)	56% (11%)	50% (14%)	35% (31%)	78% (3%)	40% (20%)	9% (45%)	31% (54%)	45% (25%)	49% (20%)

\* AS = Academic staff; PDRA = Postdocs; PG = Postgraduates; PSS = Professional Support staff (Academic Related and Assistant Staff)

‡ For this question, Positive = Strongly disagree or disagree, Negative = Strongly agree or agree

† For this question, Positive = “Yes, equally successful”, Negative = “No, men more successful” or “No, women more successful” [the vast majority of these were “Men more successful”]

## Appendix 2: Data tables

Please present the mandatory data tables, and if desired, any additional datasets.

Figure A2.1: Overview of staff numbers by gender and staff type 2015-2022

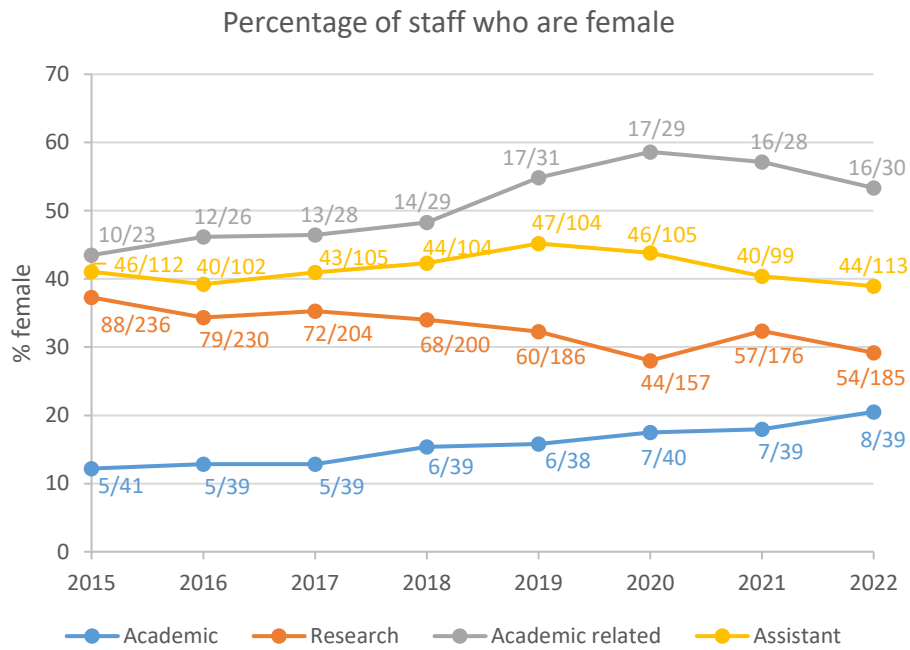


Figure A2.2: Undergraduate numbers 2015-2022

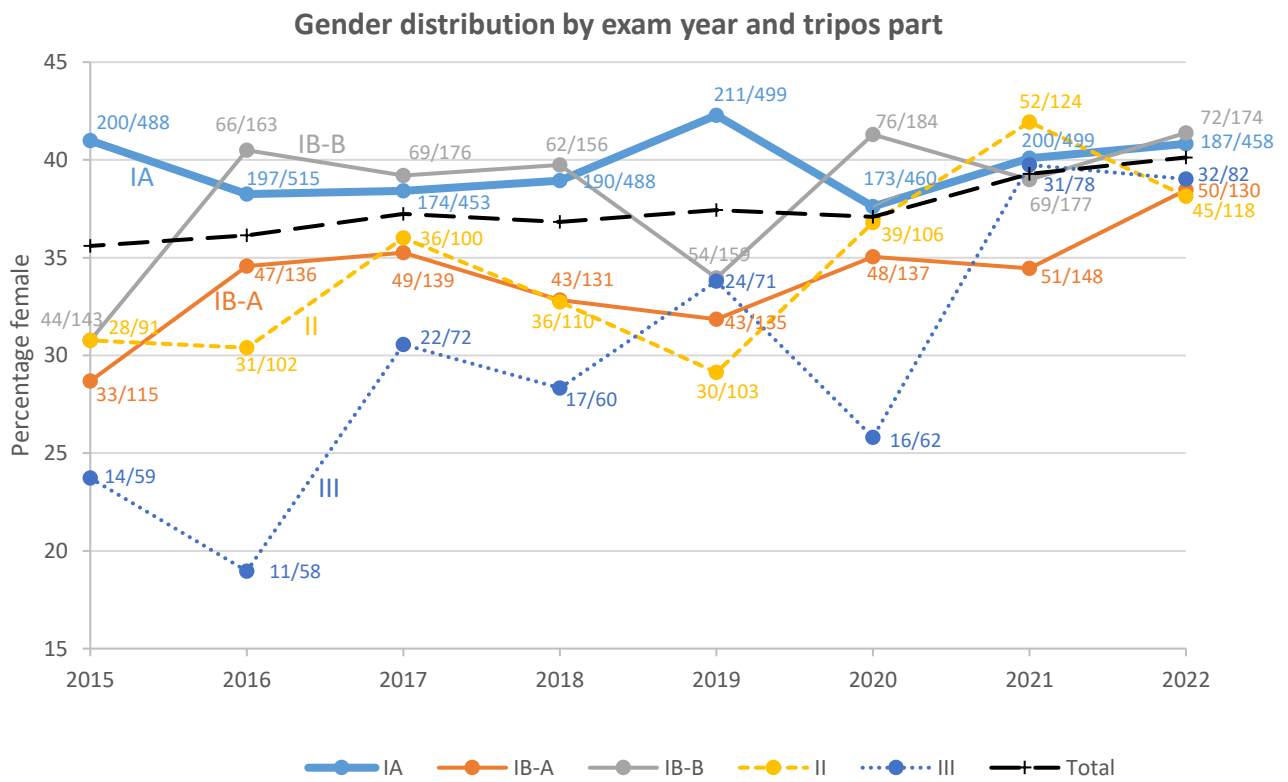
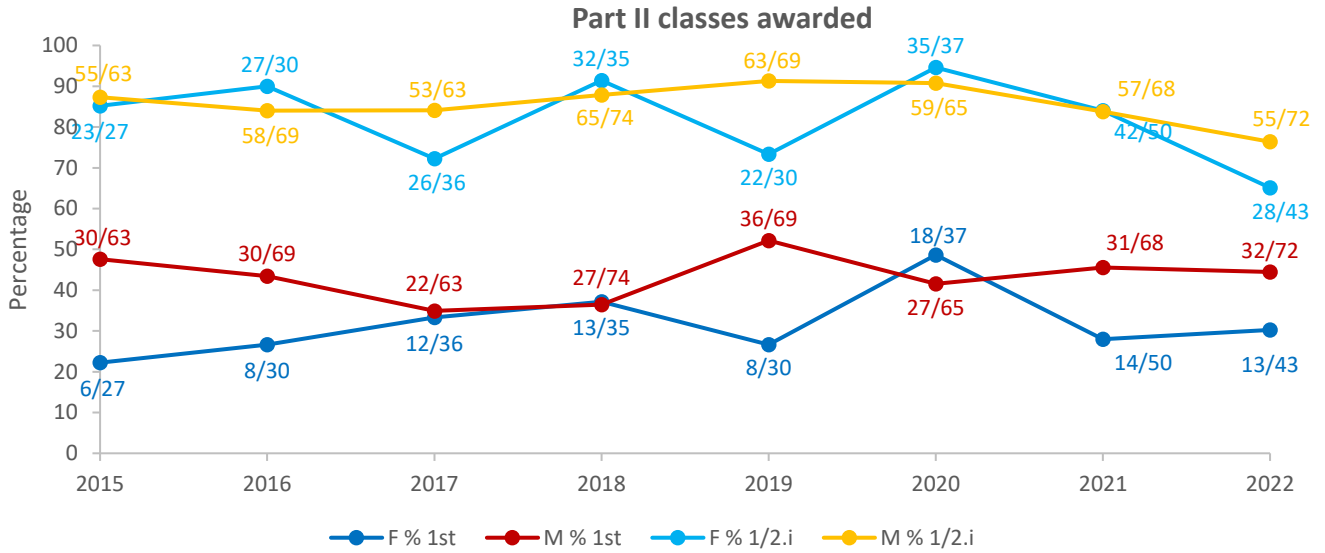


Figure A2.3: Examination gender awarding gaps for 1<sup>st</sup> and (1<sup>st</sup> + 2.1) grades at PartII (third year) and PartIII (fourth year) 2015-2022 (students specialise in one course in the final two years of the degree)

(a) Part II



(b) Part III

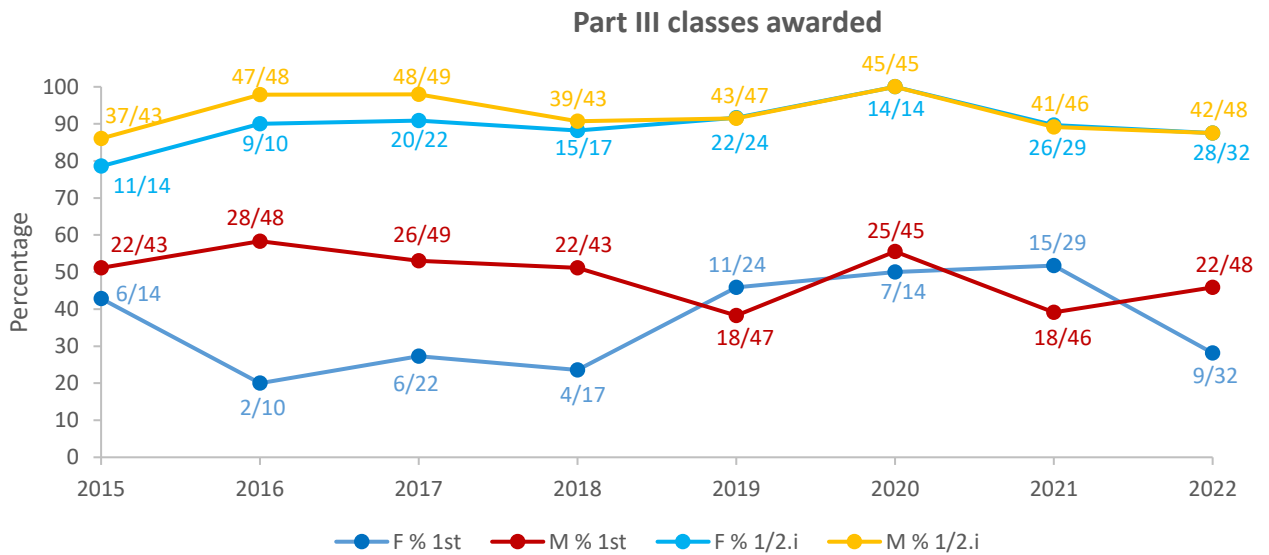


Figure A2.4: Participation in Open Days for potential postgraduate applicants (in 2020 done online) 2017-2021

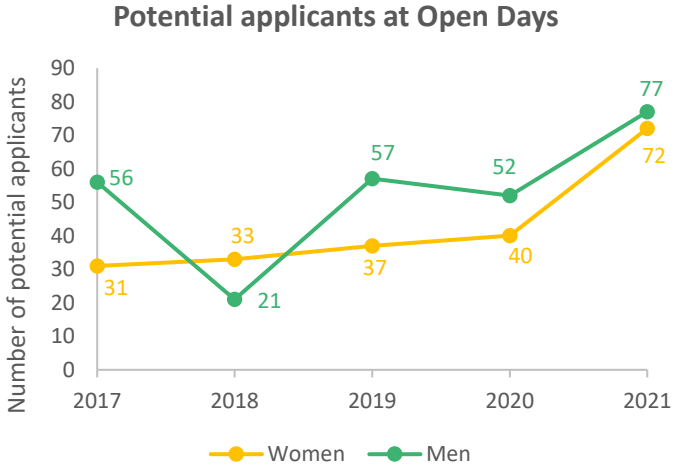
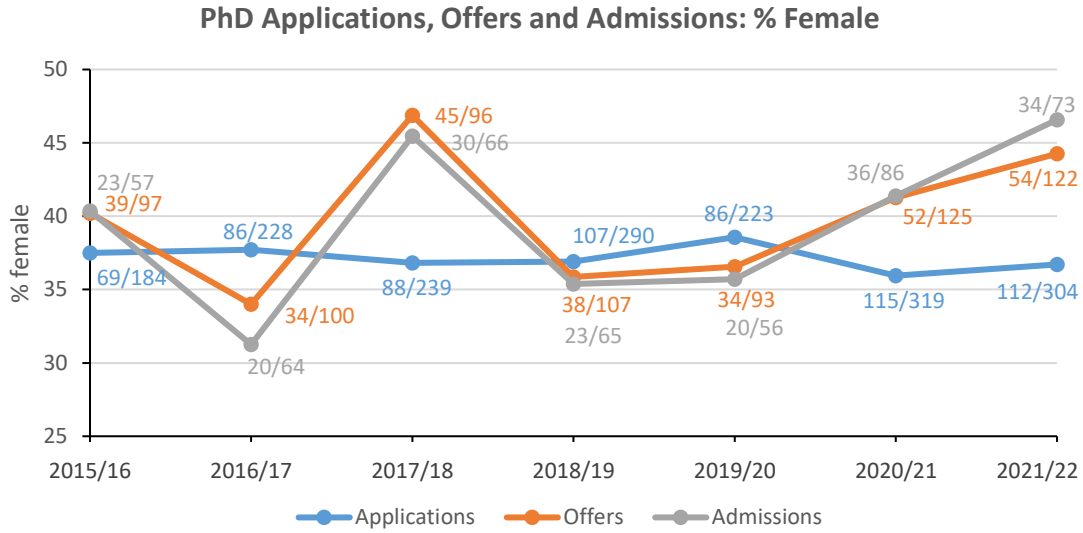


Figure A2.5: Postgraduate admissions for (a) PhDs and (b) MPhils 2015-2022

(a) PhD



(b) MPhil

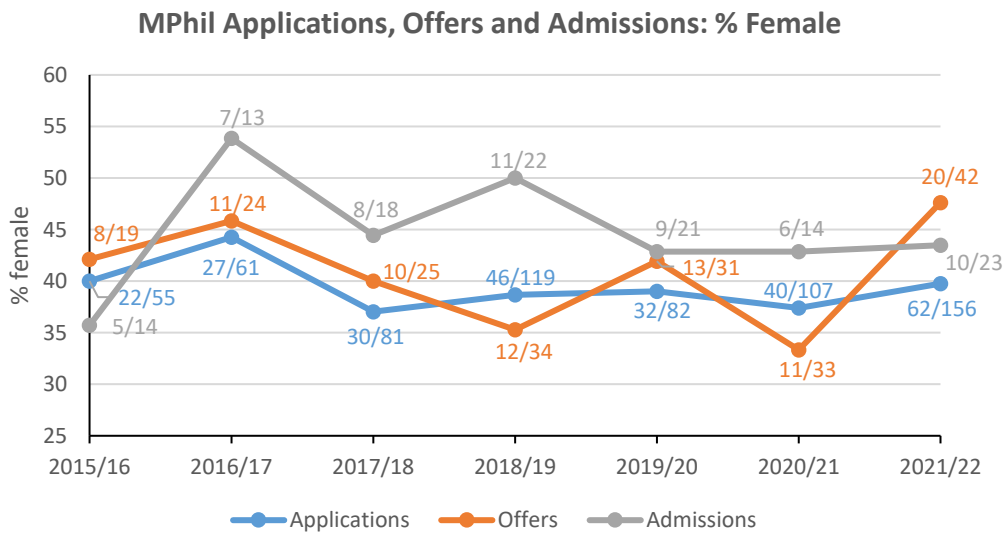




Figure A2.6: PDRA (left) recruitment through to appointment and (right) overall headcount for 2015-2021

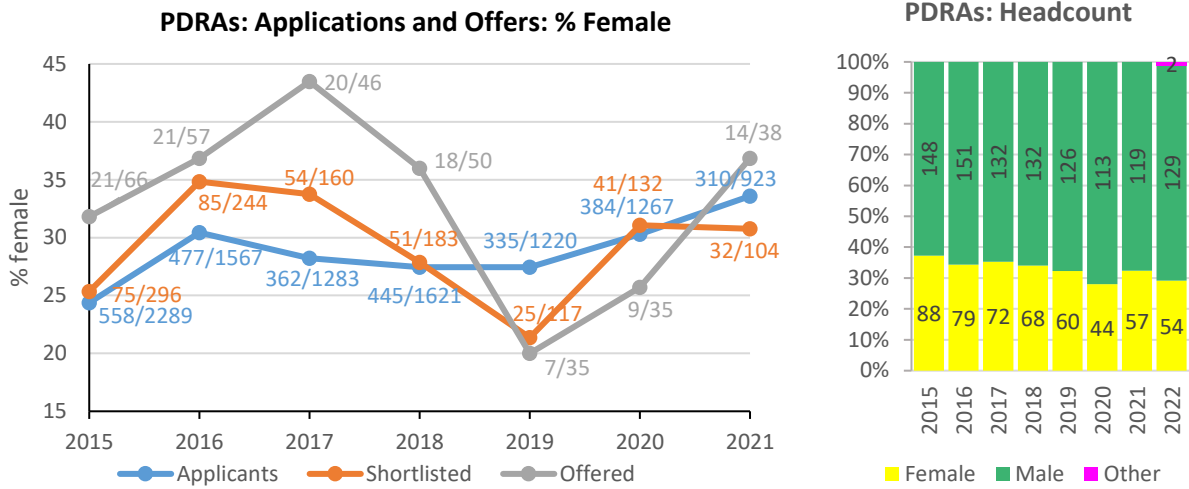


Figure A2.7: Academic and staff by gender and 'grade' 2015-2020

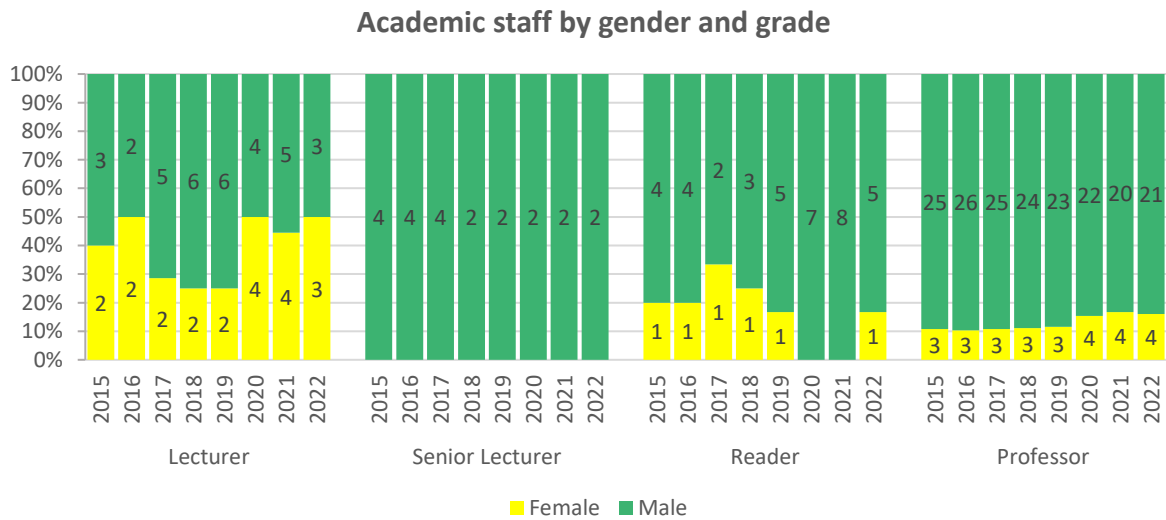


Table A2.1: Breakdown of Applicants leading to appointment for academic positions 2015-2022

(academic positions listed in no particular order, overall 469 applicants)

	Applications				Shortlisted					
	M	F	O	U	M	F	O	U	M	F
Lectureship 1	79%	17%	0	4%	60%	40%	0	0	1	0
Lectureship 2	66%	13%	0	21%	80%	20%	0	0	1	0
Lectureship 3	84%	16%	0	0	50%	50%	0	0	0	1
Lectureship 4	67%	29%	0	3%	60%	40%	0	0	1	0
Lectureship 5	90%	8%	0	1%	83%	17%	0	0	1	0
Lectureship 6	92%	8%	0	0	75%	25%	0	0	1	0
Lectureship 7	69%	19%	0	1%	50%	50%	0	0	0	1
Lectureship 8	64%	36%	0	0	40%	60%	0	0	0	1
Lectureship 9	71%	21%	0	7%	60%	40%	0	0	1	0
Lectureship 10	80%	13%	0	7%	80%	20%	0	0	1	0
<b>Total</b>	<b>78%</b>	<b>17%</b>	<b>0</b>	<b>5%</b>	<b>66%</b>	<b>34%</b>	<b>0</b>	<b>0</b>	<b>70%</b>	<b>30%</b>

(M = Male, F = Female, O = Other, U = Undisclosed)

Table A2.2: Applications for research fellowships 2015-2021

(successful applications shown in parentheses, , 42 total applicants )

Royal Society URF		EPSRC Early Career Fellowship (or equivalent)		BBSRC David Phillips Fellowship		Wellcome Trust Henry Dale and Senior RFs		Total	
M	F	M	F	M	F	M	F	M	F
80%	20%	70%	30%	88%	12%	78%	22%	79%	21%
(2)				(1)				(2)	(1)

## Appendix 3: Glossary

Abbreviation	Full text
AS	Athena Swan
ACGWG	Awarding and Continuation Gap Working-Group
ASAP	Athena Swan Action Plan
ASCS	Athena Swan Culture Survey
ASUS	Athena Swan Undergraduate Survey
CCTL	Cambridge Centre for Teaching and Learning
CoGEC	Chair of Graduate Education Committee
CV	Curriculum Vitae
C&WIC	Communications and Web-Infrastructure Committee
DHoD	Deputy Head of Department
DoS	Director of Studies
DRC	Disability Resource Centre
ED&I	Equality, Diversity & Inclusion
F	Female
HoD	Head of Department
HR	Human Resources
IUPAC	International Union of Pure and Applied Chemistry
LGBTQI+	Lesbian, Gay, Bisexual, Transgender, Queer, Intersex +
PA&EM	Postgraduate Admissions and Education Manager
PDRA	Post-Doctoral Research Assistant
PET	Postgraduate Education Team
PSS	Professional Support Staff
QS	Quacquarelli Symonds
RGED&IR	Research Group Equality, Diversity & Inclusion Representatives
RIG	Research Interest Group
RR	Response Rate
RS	Royal Society
RSC	Royal Society of Chemistry
RSURF	Royal Society University Research Fellowship
SAT	Self-Assessment Team
SMT	Senior Management Team
SPS	School of the Physical Sciences
SPS-ED&IF	School of the Physical Sciences ED&I Forum
SRD	Staff Review and Development
STEMM	Science, Technology, Engineering, Mathematics and Medicine
THE	Times Higher Education
UB	Unconscious Bias
UK	United Kingdom
W&RCC	Working & Research Culture Committee