

Athena Swan renewal application form for departments

Applicant information

Name of institution	Queen's University Belfast
Name of department	School of Chemistry and Chemical Engineering
Date of current application	September 2022
Level of previous award	Silver
Date of previous award	April 2017
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Section	Words used
An overview of the department and its approach to gender equality	2302
An evaluation of the department's progress and issues	3595
Future action plan*	
Appendix 1: Culture survey data*	
Appendix 2: Data tables*	
Appendix 3: Glossary*	
Overall word count	5897 – Additional words over limit to address COVID impact and response

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

Overall word limit: 5500 words

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

1.1 Letter of endorsement from the head of the department



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Professor Panagiotis Manesiotis
Head of School
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21st September 2022

Athena Swan Departmental Silver Award Renewal

Dear Athena Swan Assessment Team,

I am delighted to give my enthusiastic support for this Athena Swan Silver renewal application from the School of Chemistry and Chemical Engineering, Queen's University Belfast and confirm that the information presented in the application (including qualitative and quantitative data) is an honest, accurate and true representation of the School.

Having only taken post as Head of School at the end of August 2022, I acknowledge with gratitude the contribution of the previous Head of School, Professor Steven Bell, who oversaw the EDI progress during the period of 2018 to 2022 reported in this renewal application. In a field with a long history of women being largely underrepresented (and the challenge of declining numbers of chemistry students in the UK more generally), notable progress and positive change in our School was achieved in the following areas:

- Eight female academics were promoted (1 to Professor, 1 to Reader and 6 to Senior Lecturer). Three female Professional/Technical/Operational staff also progressed to higher grade roles
- The gender balance of the SAT is now at parity, as we strongly recognise EDI progress is dependent on all and should not fall disproportionately to female staff members
- Awareness of EDI and Athena Swan in the CCE has increased from 60% at the last application to 85% at the 2019 staff survey
- Female invited research seminar speakers now represent 44% of speakers (up for 22% in the previous application)
- Two female senior administrative officers appointed (Education and Research) to support strategic goals in the school and form part of the School Executive Committee as full decision-making members
- Our female Chemical Engineering undergraduate student population is 34 % which is 5% above the UK average



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I am particularly proud of how our School navigated the difficulties of COVID-19 lockdowns and in delivering support to both our staff and students during what was an incredibly challenging time for all of us, both personally and professionally. I am gratified that our enthusiastic support for flexible working is demonstrated in 81% of staff (80%F, 89%M) reporting they felt the School enabled flexible working and strong agreement that support for all types of caring leave was provided (80%F, 58%M). Feedback collected during the lockdown and in preparation for return to campus work showed a high level (79%) of staff felt able to discuss their circumstances and concerns with their line manager, suggesting an environment of support and openness.

During the period of assessment for this application I was an active member of the SAT in my capacity as Director of Education. From that role, I was able to commit to promoting and enabling opportunity for all, and strengthening the equality and diversity within the School, particularly in championing outreach activities. Our activities, targeted at attracting a new generation of chemists and chemical engineers, were always run with a strong emphasis on visibility of female academic and student representatives to follow the "if I can see it, I can be it" ethic and demonstrate to female students that Chemistry and Chemical Engineering is a place they are welcome and can excel in.

Closing, I wish to emphasise that I am strongly committed to continuing to address the principles of Athena Swan in the School. As new Head of School my first official point of business was to formally commit our support to the Transformed Athena Swan Charter principles. I will continue to sit on the School SAT and I look forward to leading the School towards fully achieving the values of the Athena Swan Charter.

Yours sincerely,

Professor Panagiotis Manesiotis
Head of School of Chemistry and
Chemical Engineering

1.2 Description of the department and its context

The School of Chemistry and Chemical Engineering (CCE) sits alongside five Schools within the Faculty of Engineering and Physical Sciences (EPS) at Queen's University Belfast (Figure 1.1). CCE is the only school within the Russell Group of universities where these two disciplines are combined in the same school, providing opportunities for research and teaching at the interface between chemical science and engineering. CCE is located in a

single site on the QUB campus, based within the David Keir Building (Figure 1.2) and is the only dedicated School of Chemistry in Northern Ireland.

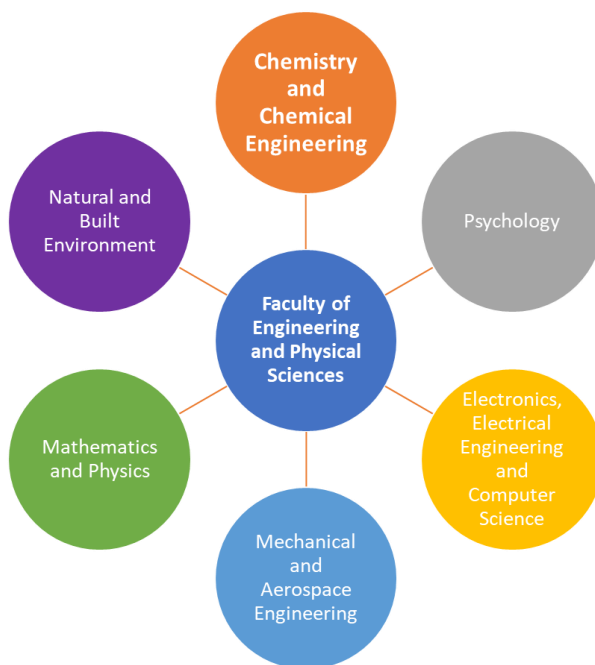


Figure 1.1 Organisational Structure of the EPS Faculty



Figure 1.2 The David Keir Building (DKB) (opened 1959). Photograph showing Stranmillis entrance and new addition Student Hub extension in the internal quad area.

A specific feature of CCE is the high degree of industrial involvement in our teaching and research. This arises, at least in part, from being a combined School which gives us the ability to develop ideas from fundamental concepts and bench scale demonstrations to full plant scale in a single unit. We have well established Centres (e.g. Bryden, CASE, QUILL) and

Pioneer Research Programs (PRP) within CCE that bring in industrial support and provide solid links to industry (Figure 1.3).

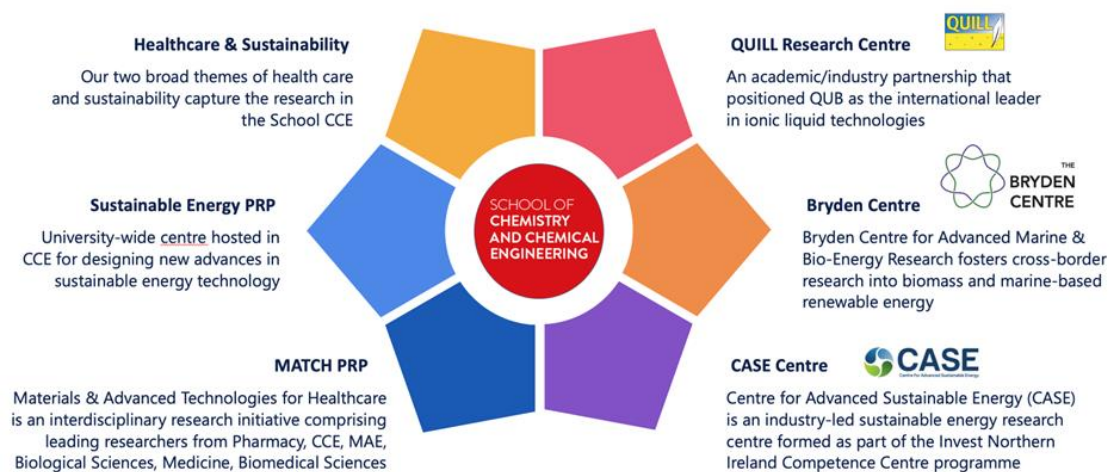


Figure 1.3 Structure and Connections of the School of Chemistry & Chemical Engineering

The real-world impact of these links and cross discipline strengths has been demonstrated in the recent REF2021 results where CCE was rated 83.3% 4-star quality for Impact. This score was on a par with University of Cambridge and only bettered by three other universities (out of 41 returned). This is a significant achievement for a relatively small School. One of the three Impact case studies was led by a female academic.

1.2.1 Current staff profile

In 2021/2022 CCE has 41 (30M, 11F) Academic, 39 (22M, 17F) PTO and 37 (22M, 15F) PDRA staff. (Appendix 2. Figure 1). There has been a steady increase of female academics, from seven in 2013, to 11 in 2021/22, with the current number representing 27% of academic staff. In the same period, the percentage of female PDRAs has been 40-55% (number fluctuating due to short contracts). We support a PDRA teaching fellowship scheme which gives an opportunity for contract research staff planning to pursue an academic career to gain experience in teaching by extending their contract by one month. The “Diversity landscape of the chemical sciences report” published by the Royal Society of Chemistry in 2018 reported that 23% of academic staff were female (2014/15), the increase of female staff in CCE is reflective of this trend and shows CCE to be in line with other UK universities in improving gender representation. The School has a culturally diverse, international community (representing 24 countries), with a high proportion of non-UK academics (50%, including ~23% non-European), with 70% identifying as White and 18% as BAME, (12% not known). Non-UK PDRAs (69%) and PhDs (55%), and an active exchange program with China (since 2017 we have received up to 40 Chinese undergraduates per year, approximately 10% of the UG cohort, of which 30%-60% are female).

Retention of all staff is important, and the retention and promotion of female academics and researchers is critical. We promote flexible working patterns and our Returner’s Policy remains in place, whereby academics taking maternity or adoption leave are free from

administration and teaching duties for six months upon return. The flexible working policies have led to an increased number of male academics and staff taking paternity and other leave. We make significant efforts to accommodate all working patterns when arranging meetings. All staff are required to take the online training “DiversityNow” which raises staff awareness on equality and diversity issues. Women at all levels are visible in all promotional material. Career development information is widely distributed to staff, and promotion panels have representation from across the Schools, as well as the University, to ensure fairness.

1.2.2 Organisational structure

The management structure is: Head of School / Deputy Head of School working with the School Manager and, mirroring the Faculty executive structure, there are four Directors (Education, Research, Postgraduates and Internationalisation). Operational management of CCE is through the School Executive Board (SEB) which comprises the HoS, Deputy HoS, School Manager and all four Directors. In addition, permanent membership of the SEB includes the Academic Directors of the Bryden Centre and the Queen’s University Ionic Liquids Laboratory (QUILL), Head of Outreach and Undergraduate Recruitment, the AS co-champions, School Education and Research Administrators, Safety Officer and Head of Technical Services. On an annual basis, two members of academic staff (one Chemist and one Chemical Engineer) are elected by the School staff to serve on SEB. SEB meets approximately once per month.

1.2.3 Key contextual changes and developments since last award (2016/17).

Since the last application a new Head of School and Deputy Head of School have been appointed. In addition, two new academic-related professional support roles have been appointed in the School to support Education, PGR and Research activities. These roles are to provide strategic support to the three relevant Directors. Their appointments have helped to reduce the administrative burden associated with the Director roles and to provide strategic support for these activities. It is envisioned that these roles will help to encourage a wider pool of academics to take up the Directorship roles in future and aid in succession planning. A wellbeing committee has been established and three CCE mental health first aiders have been trained and their details made available on first aids lists for all staff and PGR students.

In 2019, there was a significant change in the appraisal process throughout the University with less emphasis on the traditional check box appraisal system and more holistic approach with emphasis being placed on staff contribution to the school, Faculty and University. Through the Personal Development Review (PDR) staff are encouraged to propose Development Goals, which are intended to bridge gaps in the Reviewee’s current skills and knowledge and/or support the Reviewee’s longer-term career development aspirations. These can include training courses and participation in different areas of the university which will support their career development. Rather than appraisal, the reviewees are supported and advised by their PDR reviewer on how to approach and target activities to meet their professional development goals.

QUB revisions to the promotions process for academics has included strengthening collegiality and scholarship criteria and providing clarity on step-change between grades.

Progression from Lecturer to Senior Lecturer is reviewed and appointments recommended by School Academic Progression Committee (includes an AS representative). Senior Lecturer to Reader (newly added AC5 salary grade for Reader) is decided by Faculty Academic Progression Committee, and progression to Professor by a Central Committee.

1.3 Athena Swan self-assessment process

The SAT team consists of two AS co-Champions and has a membership spanning Head of School to undergraduate student representation.

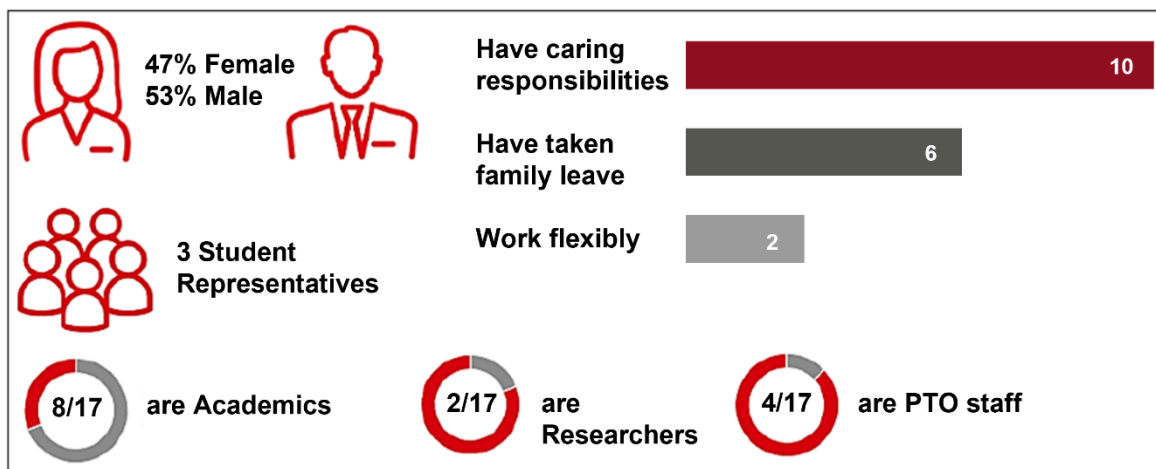


Figure 1.4 Summary of roles and experience of the SAT, 2021/22

The use of academic titles is avoided within the SAT to promote a non-hierarchical and inclusive environment. Five out of 17 members were on pre-2017 team, including former co-Champion, Cristina Lagunas, to support the continuation of best practices. Nine new members ensuring new ideas and initiatives to adapt to emerging challenges. Three SAT members form the School’s senior management team and eight members sit on the School Executive Board. Membership is open to anyone with an interest in the promotion and implementation of AS principles. Each member informs the SAT on specific issues, SAT leaders. Currently the gender balance is close to 1:1 (47 : 53) (previous action point). Academic AS co-champion receives credit towards WAM and professional support staff are encouraged to participate and allocate time to AS membership with recognition in their PDR process. Within the Academic members all levels of seniority are represented (Lecturer, Senior Lecturer, Reader and Professor). The Professional Support staff are also representative across the different grades (clerical, technical, academic-related).

<p>Amber Glanfield Female Research Administrator, AS co-Champion, SAT co-chair, Anti-bullying and harassment Advisor</p>	<p>Paul Kavanagh Male Lecturer, AS co-Champion, SAT co-chair</p>
<p>Panagiotis Manesiotis Male Professor, Head of School (HoS),</p>	<p>Angela Doherty Female School Manager Professional Services Representative, Disability Adviser</p>
<p>Jackie O'Connor Female Safety Manager Technical staff representative</p>	<p>Ross Ballantine Male Research Fellow PDRA representative, LGBT+ Advocate</p>
<p>Gary Sheldrake Male Deputy HoS Academic staff representative (recruitment and promotion)</p>	<p>Ahmed Ibrahim Osman Male Research Fellow PDRA representative / Postdoc Forum coordinator</p>
<p>Samantha Bann Female Final Year PhD student PGR representative</p>	<p>Peter Knipe Male Lecturer Director of Education</p>
<p>Nathanael Sanjaya Male UG student representative International Student representative</p>	<p>Julie Murtagh Female PA to Head of School Professional Support representative Well-being representative</p>
<p>Leila Moura Female Royal Academy of Engineering Research Fellow, Early Career Researcher representative</p>	<p>Stuart James Male Professor, Head of Outreach and Recruitment</p>
<p>Mark Muldoon Male Reader, Director of Postgraduates</p>	<p>Cristina Lagunas Female Senior Lecturer, Former AS co-Champion and academic staff representative</p>
<p>Niamh Curran Female 1st Year PhD student PGR representative Student Disability Advocate</p>	

1.3.1 Summary of the Self-Assessment Process

The SAT meets 3 - 4 times per year and AS is a standing item on SEB. The SAT co-chairs also attend the University's AS Champions Group, which meets every six weeks. This enables best practice to be shared amongst Champions, and also gives the SAT chairs a regular opportunity to raise issues with the wider group that can then be taken back to the University's AS Steering Group to inform institutional policy and procedures. In addition to the CCE AS SAT committee meetings, small working groups were enacted to focus on specific areas, e.g. Outreach, PDRA development. However, these additional working groups were seen as a duplication of work for existing committees in these areas and have been replaced by ensuring the AS SAT members are represented on the relevant committees so the information sharing and actions can be maintained. Changes in membership of the committee in the period since the 2017 award have worked to address this issue to ensure all facets of School activities have AS representation.

The committee gathers data using a variety of tools and consultation methods, including surveys, direct dialogue with specific focus groups and accessing centralised data collection (PowerBI) from People and Culture (Diversity, Staff applications, retention) and Faculty (Student numbers, Research Applications). Surveys undertaken since the last submission have included whole university-led surveys (Pulse, NSS, PTES, PRES) and School based surveys (Staff Culture, COVID impact survey (Staff and PGRs), Phasing back to campus survey). The full list of surveys and the response rates are detailed in Section 2 of the application.

The 2017 Athena silver award feedback asked us to reflect on the low level of awareness of AS within CCE. Subsequently an increase in events and AS representation across committees and working groups in CCE School have led to wider awareness of AS and its principles. In the 2019 CCE Staff Culture Survey 85% of respondents said they were aware CCE had held 3 consecutive AS awards. When surveyed on the purpose of AS, 67% identified it as "gender equality for everyone", 31% "gender equality for women/promotes women", and only 2% don't know/prefer not to say.

The issue of workload remains current, and discussions are continuing on implementation of a new modified Work Allocation Model (based on centralised software within QUB). The issue of how AS contribution is counted within this and whether participation of the AS SAT should have specific credits for all members, not just for the co-champion role, will be discussed. Currently in the WAM participation on the AS SAT would form part of the general citizenship undertaken by academics. The appointment to the committee of the Directors (Education, PGR) ensures that participation in the Athena SAT is captured as part of their roles.

Panel feedback from the last submission also asked to place more emphasis on postdoc involvement. The committee has addressed this by appointing two PDRA's, one of whom has wider involvement of PRDA activities within QUB as part of the QUB Postdoc forum. This will ensure better communication of PDRA challenges and opportunities at School level. The appointment to the committee of the RAEng Fellow also provides a valuable perspective from someone who is making the transition from PDRA to Academic. A change at University level with the implementation of the Postdoctoral Development Centre (now available to EPS PDRA's) will provide another avenue for PDRA specific events and support, including both for those interested in fellowships/academia and providing information around careers

outside of academia. This is also part of a wider University action plan for Research Culture and CCE will feed into these initiatives.

1.3.2 Overview on plans to deliver and maintain gender equality activity of the next five years

The challenges of operating during the Covid-19 pandemic resulted in new ways for the SAT to engage and share information. The move to remote working enabled the use of a MS Teams site for sharing information and recording AS activity and data in a central location. The move to less formal meetings / alternative ways to increase engagement will continue going forward. The channels within the AS Team will be used to manage the smaller working group agendas. This move to a central shared SAT site also will help to facilitate a greater ease of data collection on AS activities and achievements and to mitigate against lost information when there is staff turnover. The SAT will continue to meet formally 2 -3 times per year and will use those meetings to annually review the action plan and ensure that actions are modified and updated, if necessary, in response to changes or outcomes of success measures.

One major challenge is to ensure continuity of the SAT's work between applications, and this is something key we have learned over the last period. The SAT needs to mitigate effects of events outside our control e.g. role changes, key members leaving etc. and having a centralised data sharing platform will help to minimise disruption caused by these events.

The SAT has also recognised the need for more of a project management style, e.g. where data collection needs to be systematic (not only when application is being prepared). QUB has implemented the use of PowerBI which has helped in this regard and we will use this centrally collated data to inform and track AS issues and agendas. The additional academic-related profession staff roles that have been recruited since the last AS submission will also provide additional support for data collection and to better enable academic members to feel supported in taking on these roles. The succession planning for the committee will ensure continuity by keeping the Director roles as key members of the SAT. In addition, where possible, the previous champions will remain on the committee to provide support until new champions are embedded in the roles. This is already demonstrated on the SAT with the retention of the previous AS champion Cristina Lagunas-Castedo.

Some of our Actions are targeted at broadening the impact of AS. Future expansion is planned to include greater diversity, particularly representation of BAME and LGBT+ members and to better address intersectional issues affecting women in CCE.

Two members of academic staff within CCE are Racial Equity Champions who sit on the University Racial Equity Champions Network. The newly established Network meets every two to three months to discuss issues related to Racial Equality and all Champions receive training from Advance HE Racial Equality Charter. Race and ethnicity data collection of CCE will be carried out.

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

Evaluating progress against the previous action plan

ACTION PLAN 2017-22

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
Key Area 1: More efficient implementation of the Action Plan and better communication of Athena Swan principles across the School						
1.1	Ensure that everyone interested has the opportunity to join the SAT, while keeping a diverse, gender-balanced representation.	a) Issue open calls to renew members of the SAT as needed (e.g., representatives for PDRAs, and PG and UG students).	Athena Swan Co-Champions	From May 2017 onwards.	SAT benefiting from enthusiastic, committed members.	
		b) Pro-actively encourage more men to join.		50% male representation achieved by 2018-19.	Increased participation from men in the SAT from current 33% to 50%.	
		c) Increase diversity of SAT [New action point]		March 2021	Increased % of SAT members from diverse backgrounds.	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG	
1.2	More efficient implementation of the Action Plan through working groups able to respond to any issues in a timely manner, as well as to cooperate efficiently with relevant School and University Committees.	a) Different Athena Swan areas will be led by named members of the SAT. Each leader will establish a working group which will meet at least three times a year and will report at SAT meetings.	Athena Swan leaders for specific areas [see Table 2 in section 3(iii)]	a) From May 2017 onwards	All planned actions are in place by the stated dates.		
		b) The SAT will work in partnership with the School Committees on 'Recognition and reward', 'Well-being', 'Connecting with each other' to implement their actions. Each Committee includes a SAT member.		b) June-Oct. 2017			The School provides fast responses to issues affecting gender balance and/or diversity. New actions are put in place as required, so that set targets are achieved as detailed throughout the Action Plan.
		c) Increase annual Athena Swan budget by 33%, from £15K to £20K.		c) From 2018			
1.3	Improve communication of equality and diversity issues (incl. transgender policies), and increase efforts to promote the	a) Highlight all School Athena Swan policies in a dedicated, more focused, section of the School webpage, including, for example, the composition	Head of Outreach and Recruitment / School Manager /	From Sept. 17 onwards.	An increased percentage of staff and PG students are aware of equality and diversity policies, i.e. positive		

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
	School's Athena Swan principles and policies among staff and students (including prospective students). A)	of the SAT and Athena Swan working groups, as well as specific School policies (e.g., School returners' policy, 'teaching fellowships' for PDRAs).	CCE Website Coordinator		responses to relevant survey questions increase to at least 70% (currently 52% among PGRs and 60% among staff)	
		b) Increase efforts to highlight the School's Athena Swan principles and policies in recruitment events (e.g., include more female role models/case studies in UG presentations, use new 'Diversity' video [see 2.1(f)]). Include explicit Athena Swan information in School promotional brochures for UG students [see 2.1(a)].		From Sept. 17 onwards	Increased female recruitment (see action 2.1 for details). Increase the number of male members of staff taking on parental/dependant leave, career breaks or flexible working.	
		c) Exhibit relevant information on Equality and Diversity on a dedicated notice board in the School, including University's transgender policies (ground floor, close to the School Office).		Notice board in place by August 17.		

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>[Amendment]</p> <p>Re-locate notice board from ground floor corridor to School reception / foyer at intersection of steps and corridor.</p>		March 2021		
		<p>d) Ensure that staff and students complete the relevant training by emailing regular reminders (at least once a year), and monitoring completion rates. This includes the new UG on-line training programme 'Think Difference. Act Differently'.</p>		d) Emails to be sent in Sep-Oct every year.		
		<p>e) Increase frequency of Athena Swan seminars on work-life balance (from one every two years, to once a year).</p> <p>[Amendment]</p>		e) From 2018 onwards.		

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		Promote and link in with seminars and training available more widely in EPS faculty and QUB.		March 2021		
1.4	Assess progress on Action Plan and identify new issues in a timely manner.	<p>School surveys will be circulated every two years for:</p> <ul style="list-style-type: none"> - Staff (incl. PDRAs) - PGRs - PGTs - UGs <p>[Amendment]</p> <p>Feedback from UGs / PGTs / PGRs to be obtained annually via NSS, QUB Graduate School surveys (PRES, PTES), and School Focus groups</p>	Athena Swan Co-Champions / DPGR / DE / School Manager	Surveys to be circulated in 2018 and 2019	<p>Feedback from consultations is analysed and compared with previous feedback. Results are shared with staff/students. Actions taken as appropriate.</p> <p>We aim to achieve survey participation of $\geq 75\%$ for staff and UG students (current staff participation: 63%) and $\geq 85\%$ for PGR/PGT students (current PGR participation: 80%)</p>	
2. Key area to be addressed: UG and PG recruitment and support						
2.1	Increase the percentage of female students in UG courses.	a) Include more female case studies in presentations at Open Days and other recruitment events, making reference, specifically, to	Head of Outreach and Recruitment / School Manager	From Oct 2017 onwards	The UG % female increases throughout the next 5 years. By 2021/22 we aim to achieve 50% female UGs in Chemistry	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>former female UGs entering through Foundation courses. Make explicit reference to Athena Swan policies/principles in promotional brochures for UG students [see also 1.3(b)].</p> <p>b) Include at least 2 hands-on experiments presented by female UGs, PhDs or PDRAs in all recruitment events (currently have only been used at some School open days).</p> <p>c) Increase involvement of female UG students in recruitment events, as feedback has indicated that often prospective students identify more closely with UGs than PGs or PDRAs. We aim to involve 3-5 female UGs at each event (currently 2 female UGs participate in some events).</p>			<p>(currently 45%) and $\geq 40\%$ in ChemEng (currently 35%).</p> <p>[Set targets relate to the %female (2016) at A-Level Chemistry (ca. 50%), and Maths (ca. 40%), compulsory subjects to enter our Chemistry and ChemEng Degrees, respectively.]</p>	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>d) Contact all applicants through individual letters the School's commitment to gender equality and mechanisms in place to support students are emphasised.</p> <p>e) Promote Athena Swan principles and policies among science and career teachers (e.g., include relevant information at 'Teachers' Conferences', twice a year – see Section 5.6(viii) and ActionPlan2013_2.3)</p> <p>f) Use the new University 'Diversity' video at recruitment events (the video features two School's SAT members: Prof. de Silva and Prof. Swadzba-Kwasny).</p>				
2.2		a) In annual talks to promote PGR studies to final year UGs, include career advice, e.g.,		From May 2017 onwards	The PGR %female increases throughout the next 4 years.	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
	Increase the percentage of female students in PGR courses.	<p>with examples of jobs that can be accessed with a PhD. Include also a presentation from a current female PhD student, and examples of current jobs done by former female PhD students. Include some of this information also on the Athena Swan notice board.</p> <p>b) Update promotional material on the web for PGR projects available in the School, ensuring that it is presented in an unbiased manner and including enough information, for example, on supervisors' research interests/groups.</p> <p>[Amendment]</p> <p>All PGR Projects to be advertised on central QUB website as instructed by QUB Graduate School</p> <p>c) Include relevant PG information on a dedicated</p>	DPGR / Athena Swan Co-Champions		<p>By 2021/22 we aim to achieve ≥45% female (currently 39%).</p> <p>[the aimed 5% increase corresponds to the targets set for UG students above]</p>	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>notice board in the School (next to the new postgraduate office), as well as in a folder in the School SharePoint.</p> <p>[Amendment]</p> <p>PG Noticeboard replaced by PG Handbook.</p>		<p>Notice board and SharePoint folder in place by Aug. 17.</p> <p>March 2020</p>		
2.3	Increase the visibility of women within the School in order to encourage more women into UG and PG courses.	a) Increase the number of female invited speakers from 22% (2014-16) to 30% each year (<i>i.e.</i> , close to the average percentage of female academics in UK Chem. and ChemEng departments).	Head of School / Athena Swan Co-Champions / DE / DR / DPGR / DI	From 2018 onwards	Target percentages of female speakers, and female IAB representatives achieved.	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		b) Include at least two female industrialists in the School's Industrial Advisory Board (IAB; currently formed by 5 men).		By 2019		
		c) Increase the number of Athena Swan seminars from one to two a year.		From 2018 onwards		
		[Amendment] Promote and link in with QUB / EPS faculty seminars		March 2020		
2.4	Introduce welcoming events for returning UG/PG students (currently, welcoming days are in place only for first year students).	a) Returning students will be invited to an information session where they will be given general information re. the structure of the year ahead, and reminded of the benefits of support/mentoring schemes (incl. case studies, and relevant Athena Swan information).	Director of Education / Director of Postgraduates / Athena Swan Co-Champions	From Sept. 18	Feedback gathered is positive. Welcoming events are well attended (we aim for at least 50% UG/PG students attending by 2018, and 70% by 2021/22)	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>b) The above session will be followed by a social gathering (informal coffee / lunch)</p> <p>c) A reminder of the guidelines re. Annual Progress Reviews (APR) will be given to returning PGRs. This will also be emailed to them and supervisors prior to each APR meeting.</p> <p>d) PGRs will also be informed of new equipment and training available within the School.</p> <p>e) Feedback questionnaires will be issued every year and the information used to make improvements, as required.</p>				
2.5	Increase opportunities for career development for PGR students (through the new structure of Research Themes within the School).	<p>a) Each PGR student will give a presentation within his/her Research Theme at least once a year.</p> <p>b) Actively promote QUB programme of activities for</p>	Director of Research / Director of Postgraduates	From 2018 onwards	An increased percentage of PG students give positive responses to survey questions related to career development. We aim to achieve 75% positive	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		PGR students offered by the Graduate School, which include, for example, interdisciplinary poster sessions (<i>via</i> regular emails and through the 'research themes').			responses by 2021/22 (currently 64%)	
3 <i>Key areas to be addressed: Recruitment of female staff and promotion - Support for career development</i>						
3.1	Increase the % of female applicants to research and academic positions, in particular to senior academic positions.	a) Carefully review the wording in all job adverts to ensure that positive statements and explicit references to School's Athena Swan policies are highlighted (e.g., School returners' policy, support for REF submission and reviewing of grant applications, 'teaching fellowships' for PDRA's). See also 1.3(a).	Head of School / School Manager / HR	From July 2017 onwards	Increased percentage of female applicants by at least 5% from current values by 2021/22 [annual averages for 2013-16: 30% (PDRA), 20% (lecturer/senior lecturer), 5% (prof)]. Appoint at least one woman to a senior academic position by 2021.	
		b) Nominate a female PDRA as point of contact for all research positions and make this clear in job adverts. [Currently only academic positions have a female point of contact].	Head of School / School Manager / HR			

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		c) Form a Search Committee when recruiting for senior positions to actively encourage women to apply. The committee will include both junior and senior members of staff and will liaise with existing networks such as partner universities, international and national collaborators, and the School's Industrial Advisory Board.				
3.2	Increase the percentage of female applicants for internal promotion. Ensure that staff from all categories are aware of promotion / re-grading policies.	a) Include up-to-date information on promotions and re-grading on the School SharePoint.		a) Information is revised in Sept-Oct. each year.	Increased number of women academics applying for promotion (at least 2 by 2022).	
		b) Provide funding (ca. £1.5K) for one member of staff per year to attend the women-only Aurora Leadership Programme (open to academic, professional and support staff).		b) Before each promotion exercise in Nov. each year.		
		c) Organise School-based promotion workshops for				

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>female academics once every two years, in partnership with the University's HR Department.</p> <p>d) Linked into Aurora mentorship programme to provide female academics with support and mentorship around career progression.</p> <p>e) The HoS will meet with appraisers (of both men and women) before each appraisal round (Sept. each year) and will discuss targets for promotion for each appraisee, with particular consideration given to flexible working. Potential candidates for promotion will be identified and encouraged to apply. Participation of appraisees in influential external/internal committees will also be discussed.</p>		c) In Sept. each year.		

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
3.3	Support academic staff for future REF submissions, giving consideration to individual circumstances.	<p>a) The Research Committee and the 'School REF reading group' will review outputs and impact cases regularly and will offer constructive feedback and support as required.</p> <p>b) Staff are informed of University policies for reduced submissions and those declaring individual circumstances are treated fairly and in confidence.</p>	Head of School / REF	Ongoing	100% of eligible staff submitted.	
3.4	Increase career development and networking opportunities for professional and support staff.	<p>a) Schedule focus groups with representatives from clerical and technical staff to map a strategy to increase development opportunities, and (for technical staff) to improve the current 'buddy' scheme.</p> <p>[Amendment]</p>	Athena Swan co-Champions and relevant SAT representatives	a) Focus groups held by Dec 17	<p>Focus groups take place and actions are put in place as required.</p> <p>An increased percentage of professional and support staff give positive responses to survey questions related to career/networking</p>	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>'Buddy' scheme rebranded – "Peer mentoring" scheme</p>			<p>opportunities. E.g., by 2020, we aim to achieve at least 50% positive responses re. career development among technical staff (currently 14%).</p>	
		<p>b) Organise one annual event through SENSE involving professional and support staff.</p> <p>[Amendment]</p> <p>SENSE no longer active</p>		<p>From 2018 onwards</p>	<p>An increased percentage of technical staff considers that they have appropriate mentoring opportunities. E.g., by 2020, we aim to achieve at least 70% positive responses (currently ca. 50%).</p>	
		<p>c) Implement recommendations from the Faculty-wide Technical Review.</p> <p>[Amendment]</p> <p>Faculty-wide Technical Review was not completed. University have since signed up to UK-wide Technician Commitment program.</p>		<p>by 2019</p>		

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
3.5	Enhance support for career development for PDRAs within the School, in particular female PDRAs into their transition to an academic career.	<p>a) Increase applications from female PDRAs to relevant grants/fellowships/awards (e.g., Dorothy Hodgkin and L'Oréal-UNESCO Fellowships, RSC Awards), by proactively encourage PDRAs to apply (e.g., each Research Theme will be asked to identify at least one suitable candidate once a year). Applicants will be given support through the new School 'peer reviewers' panel' (see Action 3.6).</p> <p>b) Increase the number of School 'teaching fellowships' from 3 to 4 per year. The fellowships involve the extension of PDRA contracts by 1 month to allow PDRAs to acquire teaching experience without this having a negative impact in their research. This scheme is open to both male and female PDRAs, but the SAT will ensure that there is adequate pro-rata of female</p>	Director of Research / Postdoc Forum coordinator / Athena Swan co-Champions	From 2018 onwards	<p>Increased number of PDRAs applying for fellowships/awards from 7 (6F) in the 2013-17 period to 10 (30% male) in 2017-21.</p> <p>At least 60% of PDRAs participate in the 'buddy scheme' by 2019, and 75% by 2021.</p>	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>applicants (e.g., women are pro-actively encouraged to apply, positive statement is included in the advert).</p> <p>c) The Postdoc Forum annual budget (£1K), currently used to fund research 'lunch'-seminars, will be used to fund attendance to scientific Conferences (two PDRAs per year). Seminars will be organised quarterly instead of monthly and will not include lunch.</p> <p>d) Introduce a 'buddy' scheme for all PDRAs in the School. Buddies will be allocated within the same Research Theme if possible.</p> <p>1.6.</p> <p>[Amendment]</p> <p>'Buddy' scheme rebranded – "Peer mentoring" scheme</p>				

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		e) Include relevant information for PDRAs in a dedicated folder in the School SharePoint. Highlight in particular support available when applying for academic jobs.				
3.6	Ensure that appropriate support is available to those applying for research grant applications, in particular, new members of staff.	<p>a) The Director of Research will act as primary point of contact for research grant support.</p> <p>b) A School 'peer reviewers' panel' will be established to offer feedback and support to staff writing grant applications.</p> <p>c) The panel will work in partnership with the University's 'Research and Enterprise' Directorate to provide guidance for panel members, as appropriate.</p>	Director of Research	From June 2017	Increased number of research applications from staff to at least one a year by 2019.	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		d) The new policy will be circulated by email among academic staff.				
4 Key areas to be addressed: Flexible working and career breaks (see also 1.3)						
4.1	Reinforce and extend the School's returners' policy to include members of staff returning from long-term illness.	Academics returning from long-term illness will also be relieved of teaching and administrative duties for six months, and will have a 'back to work interview' with the HoS (or project manager/supervisor) where flexible working will be discussed.	Head of School / School Manager	From May 2017 onwards.	Uptake of the scheme by 100% of staff returning from long-term illness. Increased research productivity for returning members of staff (both male and female), and quicker reintegration into the School.	
4.2	Ensure that students with caring duties are well supported by the School and their needs are addressed.	The School will name a member of staff as 'carers' point of contact' for UG and PG students, to provide advice on support available and liaise with other members of staff, as required (e.g., when lectures are missed or extended deadlines are needed as a direct result of their caring duties). Students will be informed of this new scheme at induction, and relevant	Dr Thompson (UG students) / Prof. James (PG students)	From Sept. 2017 onwards.	Uptake of the scheme by at least 50% of students with caring duties by 2018, and 80% by 2020. Feedback from those using the scheme is positive.	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		information will be included in the Students' Handbook.				
5 Key areas to be addressed: <i>Organisation and Culture</i>						
5.1	Increase frequency and variety of social gatherings and encourage participation from staff and students.	<p>a) Celebrate the achievements of male and female members of staff and PGRs with a dedicated 'celebrating success' event once a year.</p> <p>b) Increase the number of family-friendly social events from one to two each year. Events will be planned in partnership with the School's Wellbeing Committee.</p> <p>c) Invite female PDRAs to informal lunches outside the School with female academics every 3 months.</p>	Ms O'Connor (wellbeing) / Prof. Robertson (HoS) / Dr Lagunas (Athena Swan Champion)	From June 2017 onwards	<p>Events are well attended. Staff and students feel valued. Increased morale and better collegiality.</p> <p>Relevant questions in surveys have increased positive responses. E.g., currently 50% staff considers that the School values their full range of skills and experience. We aim to achieve at least 70% positive responses by 2020.</p>	
5.2	Maintain a good workload balance across the School.	a) The new workload allocation model is implemented before the next academic year following consultations within the School. It will specifically consider appropriate pro-rata of teaching and administration	Head of School / Director of Education.	Ongoing - new model in place by Sept. 2017.	Positive feedback is gathered from staff after implementation.	

	Description of action	Plan	Responsibility	Timescale	Success Measure	RAG
		<p>duties for staff working part-time.</p> <p>b) Following implementation of the workload allocation model, feedback from staff will be gathered via focus groups in July 2018 and 2019. The groups will include representation from part-time working staff.</p> <p>c) The workload allocation model will be reviewed every year to ensure that work allocations are fair and free of bias, and it takes into account the needs of staff working flexibly. Particular emphasis will be made in the allocation of appropriate pro-rata teaching and administration loads to female academics working part-time (i.e., in terms of quantity and scheduling). The composition of committees, to ensure that there is appropriate gender-balance, will also be considered.</p>		Feedback and review: annually (2018-2020)	More gender-balanced representation in School Committees.	

2.1.1 Overview:

Our 2017-21 plan contained 19 objectives supported by 61 actions across five key areas. In April 2020, we added one new objective and revised ten actions.

Actions: 49 (80%) are rated 'green', eight (13%) are rated 'amber' and four (7%) are rated 'red'. Of the 12 actions rated 'amber' or 'red', many were impacted by Covid, e.g. delivery of social events (2017_A 5.1) or unachievable due to circumstances beyond our control, e.g. non-completion of Faculty-wide Technical Review (2017_A 3.4).

Objectives: Nine (47%) are rated 'green' and ten (53%) are rated 'amber'. Four (2017_A 1.4, 2.5, 3.4 and 5.1) objectives are rated amber due to not reaching high thresholds for survey participation / positive responses (despite progress), whilst three (2017_2.1, 2.2 and 3.1) are due to not meeting ambitious targets concerning female student and staff recruitment.

Importantly, progress has been made in all five key areas since our last application.

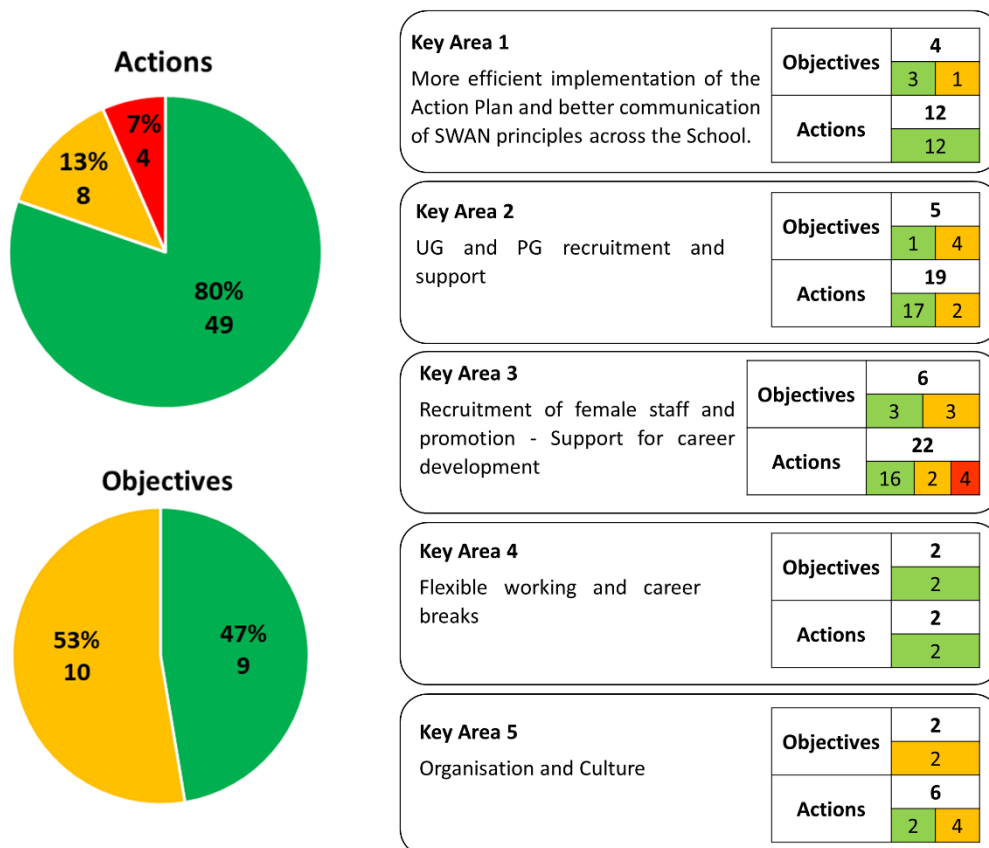


Figure 2.1. RAG status of actions and objectives by key area.

2.1.2 The methodology of action implementation, evaluation and iteration of our action plan:

SAT co-chairs oversaw the implementation of the complete action plan. Named members of the SAT, or 'SAT leaders', took ownership of parts of the plan e.g. UG student recruitment, and updated the SAT at regular meetings. To assess the impact of progress on actions on staff and students, our primary evaluation approach has been staff and student consultation – through biennial staff surveys and ad-hoc focus groups and annual student surveys and 'townhall meetings' (Table 2.1). Iterations and amendments to actions were based on surveys and focus group feedback, and adjustments to general University policies and procedures.

Table 2.1 Selected surveys.

Date	Survey / Focus Group	Group(s) surveyed	Response Rate
June 2021	AS Staff culture survey	All CCE staff	59% (F47%/M49%)
2021	Phasing Back to Campus – Covid survey	All CCE staff	53%
January 2020	Covid survey	All CCE staff	61%
January 2020	Covid survey	PGR	49%
January 2022	QUB Staff Pulse surveys	All CCE staff	61 % (F64%/M59%)
June 2019	AS Staff culture survey	All CCE staff	38%
Annual	NSS (2022)	UG	84%
Annual	PTES (2022)	PGT	35%
Annual	PRES (2022)	PGR	36%

2.1.3 Covid

- During the COVID-19 affected year, CCE continued to support flexible working arrangements for staff and has highlighted opportunities at QUB, Faculty and School level to access online social events and mental health and wellbeing initiatives to maintain a sense of community and support. Academics received full guidance and support to transition their teaching to online-only from CCE's Digital Education Lecturer who provided training videos, live sessions and on call support for all academics.
- Staff and PGR students were surveyed during lockdown (2020) to assess their experience and level support needed during this time. Staff were surveyed

again in 2021 around the issue “Phasing back to Campus” from home working to gauge an understanding of the barriers people faced returning to work onsite.

- There is a vibrant seminar programme, with approximately 25 talks per annum. This programme has continued successfully throughout the disruption of COVID-19 closures with a move to online seminars. This change has further diversified the range of speakers who we can invite, with barriers associated with international travel or disruption of caring responsibilities minimised with the move to online presentations.

As part of adjusting our outreach activities in response to the pandemic we have:

- Overhauled the outreach section of the School’s website, with new content built around our core “Healthy and Sustainable Futures” message. The site has been designed to encourage as much engagement and interaction from visitors as possible, including the use of a range of multimedia assets and enhanced user experience.
- Built dedicated microsites for specific activities. These have allowed us to host all our normal events virtually and have generated significant levels of traffic and ongoing interest.
- Developed a bank of valuable resources for outreach, including employer presentations, student videos, graduate testimonials, and taster lectures. We will continue to use these tools post-pandemic to engage with applicants/prospective applicants who are not able to come to Belfast.

2.1.4 Evaluation of Action Plan By Key Area.

2.1.4.1 Key Area 1: More efficient implementation of the Action Plan and better communication of Athena Swan principles across the School.

Progress:

- SAT: 50% of members are males / more diverse membership.
- Greater awareness of EDI policies within CCE e.g., there has been a significant increase staff uptake of flexible working and career break arrangements.
- Increased AS staff culture survey participation from academics and PTO staff (71 %).

Room for improvement:

- Greater diversity of SAT to include specific intersectional representation (LGBT+, BAME, etc.)
- Streamlining SAT role succession and raising awareness of SAT responsibilities for incoming members.
- Low AS staff culture survey participation from PDRAs (36%).

Key priorities in this area were threefold: i) to enhance male representation in SAT, ii) introduction of SAT leaders to improve efficiency of plan implementation and iii) raise awareness of equality and inclusion issues and related policies.

Implementation of action (2017, A 1.1) permitted us to achieve 50% male representation within SAT by 2018 which has been maintained to date. We added a new action point (2017, A 1.1 c) as it was recognised that there were opportunities for more diverse and inclusive representation within the SAT. Therefore, we increased our international membership from three to five since 2017 and recruited a representative who can inform on LGBTQ+ issues.

The introduction of SAT leaders (2017, A 1.2) for implementing specific areas of the action plan proved very effective. The spread of responsibility permitted the AS co-champions to focus on monitoring progress and identifying issues in a timely manner which could then be communicated to a specific SAT leader for action. For example, data analysis showed that the female proportion of PGR students fell in 2017/18. From 2019 onwards the PhD information sessions provided to UGs have included a female PhD qualified panel member providing guidance and advice for those students considering undertaking a postgraduate research degree. We believe this increased visibility of female PhD holders and their research and career experiences may have contributed to the increase of female PGRs (5% increase over five years) (Appendix 2; Figure 15).

Following AS panel feedback, emphasis was placed on increasing the awareness of equality and diversity policies in CCE (2017 A 1.3).

Selected actions included:

- Updated and expanded CCE AS webpages highlighting AS activities and initiatives (e.g. School returners policy) in CCE and QUB policies regarding flexible working, family leave, diversity and inclusion, childcare etc. (Figure 2.2).
- AS notice board frequently updated and moved to more prominent position in School.
- Close monitoring of 'Unconscious Bias' and 'Think Differently Act Differently' training course participation by staff and students, and action if needed. Completion rates are currently at record levels (86 % and 84 %, respectively).
- AS talk for all incoming Level 1 UGs highlighting EDI policies and resources.

We believe that our efforts to increase awareness of equality and diversity issues are reflected by:

- A significant increase in flexible working and career breaks uptake by staff, particularly among males (29 instances; 17 F, 11 M) (see Key Area 4 summary and Appendix 2; Figure 32 for details).
- 100 % uptake of "School Returners Policy" which relieves academics returning from maternity/extended paternity/adoption leave, or long-term illness, of teaching/administrative duties for a period of six months.

Amber objectives

Although our Staff Culture Survey response rate has improved from 38% in 2019 to 59% in 2021, we did not meet our target of $\geq 75\%$ for staff. We achieved high levels of academic and PTO staff participation (70%) but relatively low participation from PDRAs (36%). We plan to improve on this by increasing our efforts to better engage with our PDRAs and understand the reasons behind the low response rate (2022 A_3.5)

Athena SWAN

PROUD TO HOLD A SILVER ATHENA SWAN AWARD SINCE MAY 2010

SILVER AWARD RENEWED IN 2017

WHAT IS ATHENA SWAN?

The Athena SWAN Charter is a framework which is used across the globe to support and transform gender equality within higher education and research.

Established in 2005 to encourage and recognise commitment to advancing the careers of women in science, technology, engineering, maths, and medicine (STEMM) employment, the Charter is now being used across the globe to address advancement of gender equality more broadly, encompassing representation, progression, and success for all.

Athena SWAN in the School of Chemistry and Chemical Engineering

Member 21-22

AdvanceHE Athena SWAN Silver Award Race Equality Charter Working Towards

The School of Chemistry and Chemical Engineering has held an Athena Swan Silver Award since 2010. During this period, the principles of the Athena SWAN Charter have become deeply embedded within the culture of the School. Examples of our commitment include:

- The introduction of a School-wide policy which facilitates the relief of teaching/administrative duties for academics returning from maternity/extended paternity/adoption leave, or extended sick leave, for a period of six months on return to work
- The attainment of a 50/50 gender balance of academic presenters within the School's Research Seminar Series
- The introduction of School Teaching Fellowships, which involve the extension of Postdoctoral Research Academic (PDRAs) contracts by 1 month to allow PDRAs to acquire teaching experience without negative impact in their research. This scheme is open to both male and female PDRAs, but the School's Athena SWAN Self-Assessment Team ensures that there is adequate pro-rata representation of female applicants (e.g., women are proactively encouraged to apply via the provision of a positive statement within post details and advertisement)

Useful Resources

ATHENA SWAN AT QUEEN'S/ QUEEN'S GENDER INITIATIVE

Queen's University currently holds a prestigious Athena SWAN Silver Award, which is one of only 16 Silver Institutional Awards. The University also holds an impressive 14 Departmental Awards.

This resource provides a huge collection of key information relating to SWAN activities across the institution, as well as other aspects including the Queen's Gender Initiative.

Find out more about SWAN at Queen's

QUEEN'S FLEXIBLE WORKING POLICIES

THE UNIVERSITY SUPPORTS STAFF VIA THE PROVISION OF FLEXIBLE WORKING.

Key information in relation to these flexible working practices are available via the People and Culture Directorate.

Find out more about flexible working >

FAMILY LEAVE

The University provides a range of policies and services to support parents.

These allow for flexibility and time off when you need it most and provide financial support through enhanced rates of pay for leave and saving schemes to help with the cost of childcare.

Family leave at Queen's

DIVERSITY AND INCLUSION

CREATING AN INCLUSIVE CULTURE

The Diversity and Inclusion Team at Queen's aims to help create a culture that is inclusive at all levels of the University, in every system and process. The Team is a confidential source of advice and support to individual staff members on equality, diversity and inclusion issues as well providing the appropriate equality, diversity and inclusion training for University staff.

Find out more about the Diversity and Inclusion Team >

Figure 2.2. Examples of CCE Athena Swan webpages.

2.1.5 Key Area 2: UG and PG recruitment and support

Progress

- 36 % of UG CHE student population are female on average*, up 1 % from previous application and 8 % above UK average.
- 51 % of PGT student population are female on average*, 16 % above UK average.
- 20 out of 45 (44 %) of invited research seminar speakers* were female, up from 22 % in previous application.

Room for improvement

- UG CHM female population at 41 % on average*, down 4 % from previous application and 5 % below UK average.
- PGR female population at 36 % on average*, down 3 % from previous application and 4 % below UK average.

*Over 2017-2022 period

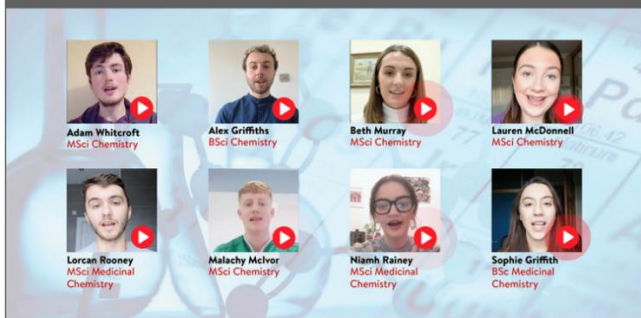
Our outreach and recruitment activities were highly commended by the AS panel in our previous application. We have strived to improve on every aspect of our recruitment processes to address gender inequality within our programmes. We have increased the visibility of female role models in all our recruitment events, highlighted the achievements of our female UGs, PGs and Alumni on CCE website and social media platforms and implemented targeted school visits by staff / students to promote chemistry and chemical engineering to female students (Figure 2.3.) (2017, A 2.1-2.2). The proportion of female invited speakers, increased from 22% (pre-2017) to 44% over the 2017-22 period (20 out of 45 speakers were female; Figure 2.4.), and one female industrialist was recruited to the School's Industrial Advisory Board (IAB) (2017 A 2.3).

We have worked hard to improve the overall student experience within CCE. One of our proudest achievements was to create an inclusive learning environment to enable wheelchair-users to complete our CHM and CHE UG courses without compromising on the student experience. This involved a concerted effort between CCE staff, Disability Services and Estates to ensure that all aspects of the course were completely accessible, including all laboratory practical elements. [REDACTED] completed the BSc in Chemistry in 2021/22 with the option of transferring to MChem in September 2022.

OUR UNDERGRADUATE STUDENTS

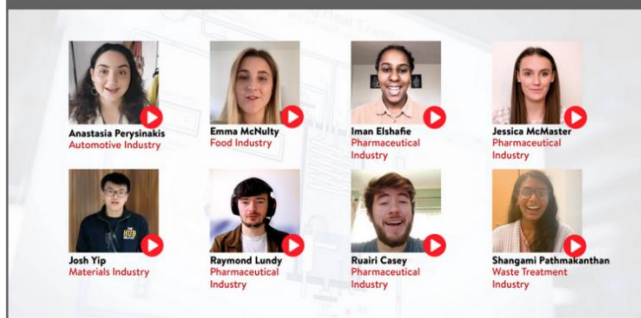
Our undergraduates study a range of chemistry pathways that align with their interests and career goals - in the videos below, you'll be able to find out more about their time at the School so far! You'll also be able to hear about how some of these students have benefitted from spending time on industrial placement with a leading organisation within the chemical sciences, equipping them with even more skills!

To hear from each of our students, click the play buttons below!



PLACEMENT STUDENTS

Find out more about how industrial placements have benefitted our students, and how the chemical engineering course has helped them perform to an exceptional level during their time in industry! To hear from each of our students, just click the play buttons beside each photo!



Come along and hear our panel give advice and valuable insights into both industrial and academic STEM career pathways. Following the presentations there will be an opportunity for you to ask the speakers questions

Join online at : <http://go.qub.ac.uk/STEMCareers2021>



Alumni profiles

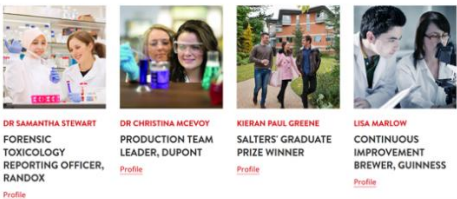


Figure 2.3. Examples of the visibility of CCE female role models featured in UG / PG recruitment and outreach events.

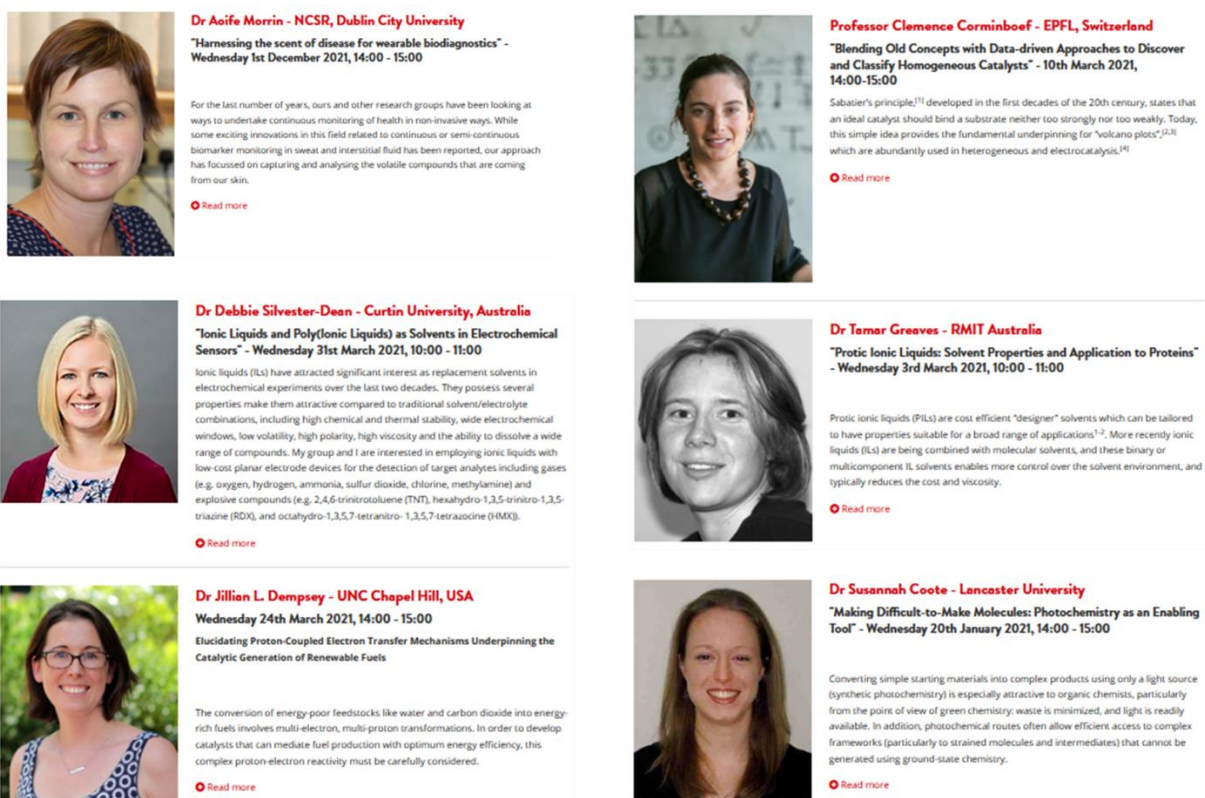


Figure 2.4. A selection of female speakers from our 2021 research seminar series.

We actively promote training offered by the QUB Graduate School and have run in-school events in partnership with the Graduate School, such as a thesis writing workshop. Feedback is captured in PGR graduate school survey (PRES) which provides School specific feedback (Table 2.2) and feedback forum meetings organised by the School twice per year for PGRs (continued online during COVID restrictions). As a result of PGR feedback in PRES in regard to knowing how to access support and development (56% positive response (6% lower the QUB average)), the School has created a new 'PGR handbook' that places support information in a single one-stop location for students and supervisors to access (2017_A 2.2) (Figure 2.5). Opportunities for career development for PGR students include annual PGR talks (sponsored by Eli Lilly) and conference travel bursaries to attend conferences on an ad-hoc basis.

Table 2.2. Selected 2020/21 PRES and PTES survey responses.

PRES survey	Definitely / mostly agree
<p>Equality, Diversity and Inclusion: “In your experience, Queen’s provides an inclusive environment that supports: students with disabilities (68%, +3%), students with caring responsibilities (62%, +7%), international students (75%, +7%), LGBT+ community (61%, = to QUB average), different religious backgrounds (70%, +8%), different ethnic backgrounds (78%, +12%)”</p>	<p>69 % averaged across the categories (6% above QUB average) (Individual categories are shown in the question, with comparison relative to QUB average)</p>
<p>“I feel involved in a culture of collaboration and trust with open discussion of research ideas/proposals/papers and providing constructive feedback”.</p>	<p>82 % (19% above QUB average)</p>
<p>“I have frequent opportunities to discuss my research /coursework with students, staff or wider networks”.</p>	<p>79 % (20% above QUB average)</p>
<p>“My School has responded to feedback about my experience throughout the year”.</p>	<p>79 % (17% above QUB average)</p>
<p>I am aware of how to access support or where to go at Queen's for issues or queries relating to Careers & Employability</p>	<p>63 % (6% below QUB average)</p>
PTES survey	Definitely / mostly agree
<p>“In my experience, people from different backgrounds are accepted and made to feel welcome at Queen’s”.</p>	<p>100 %</p>
<p>“I was given appropriate guidance and support when I started my course”.</p>	<p>95 %</p>
<p>“As a result of the course I feel better prepared for my future career”.</p>	<p>92 %</p>



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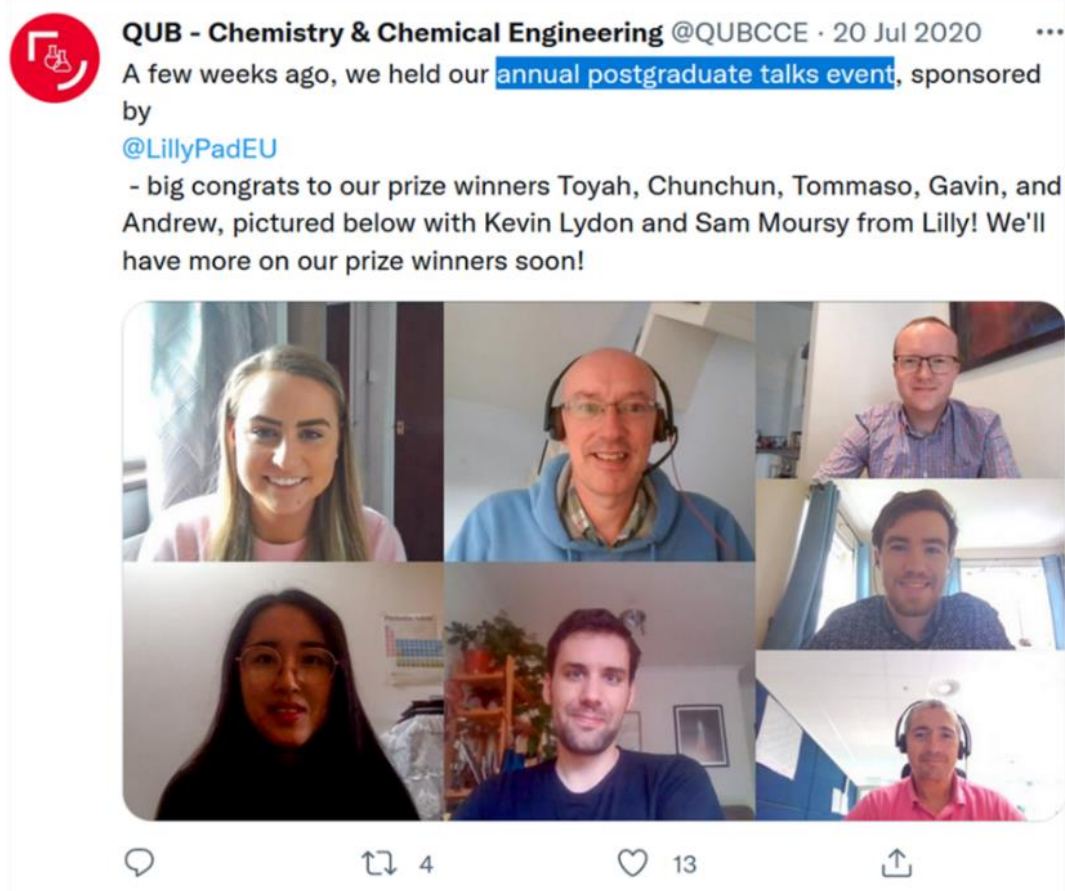


Figure 2.5. PGR Research handbook cover page and table of contents. Screenshot of PGR talks undertaken virtually during COVID-19 restrictions.

The recruitment of females into PGT programmes has been very successful. Overall PGT student numbers have grown from 39 in 2016/17 to 130 in 2021/22 (Appendix 2; Figures 13 and 14). The average female representation over the period of 2017-22 is 51% (fluctuating between 39% and 66%), the majority of whom are enrolled in the MSci in Pharmaceutical Analysis. Feedback, gathered from annual PTES surveys, is consistently positive (generally >90%) in relation to the PGT student experience (Table 2.2).

Amber objectives

Ambitious targets of 50% female UGs in CHM and $\geq 40\%$ in CHE by 2021/22 had been set in our previous action plan. Despite our efforts, female UG CHM population is 42% (down from 45% in 2016/17) and 6% below the UK average. Data analysis revealed that female chemistry applications and offers are in line with UK average, but females are less likely to accept an offer (Appendix 2; Figure 5). To improve conversion rates, visits (both virtual and in-person) by female academics to schools with a high number of applicants were organised in 2019/20 and a special effort was put in to highlight our 'equality' credentials in letters sent to female applicants. Percentages of female acceptances increased in the following two years (from 38% in 2018/19 to 55% in 2020/21) but fell to 33% in 2021/22, the reasons for which are not entirely clear. We will continue to monitor this closely, for example, 2022/23 UG recruitment data will reveal if this is a consistent trend or a one-off occurrence which will help formulate future actions to improve numbers (2022_A 2.1). By contrast, the female UG CHE population has stabilised at 34-36%, about 6% above the UK average (Appendix 2; Figure 7). The PGR female population is 36%, down 3% from previous application (Appendix 2; Figure 15) and 4% below UK average, although percentages have been rising from a low of 30% in 2018/19 which we believe was aided by our female focussed PhD information sessions.

2.1.6 Key area 3: Recruitment of female staff and promotion - Support for career development

Progress

- Significant increase in numbers of female academics applying for / gaining promotion. (Success of females, 6 SL, 1 Reader, 1 Professor).
- 6 PTO staff members (3 F; 3 M) progressed to higher grades. 2 (1 F; 1 M) moved from fixed-term contracts to permanent posts.
- Continued success in Aurora Leadership Programme (2 successful applications)

Room for improvement

- Low % female applications for senior positions.
- PDRA AS involvement and improved career development supports.

Our last assessment showed that there was a lack of female appointments to senior lecturer and professor level, and so, this became a priority area for us. Several actions were implemented, including:

- Seminars were held to improving staff understanding of university promotion and re-grading procedures and policies.
- Support from line managers to encourage staff (particularly PTO staff) to complete upskilling and leadership courses. 19 females (and three males) completed “Leadership Management and Supervisory” training (Appendix 2; Figure 28).
- Support offered to female candidates to apply to the Aurora Leadership Programme - 2 out of 3 School supported applicants were successful.

Academic staff - a significant Increase in number of female academics applying for promotion (2017_A 3.3) has been evident (16 F vs. 21 M). As a % of eligible population, females were more likely to apply (29% F vs 13% M). Eight F and 12 M were promoted, with a slightly higher success rate for male applicants (50 % F vs 57 % M success rate). The % of females at SL or above has increased from one in 2017 to six in 2022. It is particularly satisfying that one F has now progressed from Lecturer to Reader and another from Lecturer to Professor internally within this period.

100 % of eligible female staff were returned for REF 2022 (2017_A 3.3). CCE also supported three Aurora Leadership Programme applicants, two of whom were successful (2017_A 3.2). A female PDRA also won the ‘Rising Star Award 2018 in Science and Engineering’, after being nominated by the School.

The number of Teaching Fellowships has increased to four per annum (2017_A 3.5). One recent recipient has secured an academic post in a UK University whilst another received a prestigious Royal Academy of Engineering research fellowship award.

PTO staff – Six PTO staff members (3 F; 3 M) have moved to higher grades since 2017. Four staff (3 M technicians and 1 F clerical staff) moved to higher grades within CCE whilst 2 F clerical staff moved to higher grade posts elsewhere in QUB via internal recruitment procedures. In addition, one M technician and one F academic-related staff member transitioned from fixed-term to permanent contracts.

Staff survey responses regarding career development were mixed. This is addressed in future priorities section (Key Priority 4).

Table 2.3. Career development related responses.

Staff culture survey 2021	Strongly agree / agree
My line manager supports my career development	61 % (69 % M, 68 % F)
I receive useful feedback on my career development through professional development reviews	40 % (40 % M, 60 % F)
Decisions about promotion/progression are made fairly	32 % (35 % M, 39 % F)
My department has taken action to mitigate the adverse gendered impact of the Covid-19 pandemic on staff	30 % (36 % M, 35 % F)

Amber Objectives

Despite progress in female academic staff career progression, recruitment was not so successful as only one out of seven appointees were female. Although 20 % of academic applicants were female, this reduced to 14 % at shortlisting stage. CCE maintains a policy of at least one female staff member being present on shortlisting and interview panels. We are proposing running focus group with PDRA's to understand the low number of female applications and identify the barriers or perceived disincentives for women pursuing the academic career route. On the other hand, PDRA applications showed a positive bias towards females where 24 % applicants, but 35 % of appointees were females (18 F vs. 33 M).

(2017_A 3.4) The Faculty-wide Technical Review was not completed and as such no recommendations have been fed back to CCE. Subsequently the University have since signed up to UK-wide Technician Commitment program and CCE will engage with this program and more widely in the agenda for action on Research Culture. A specific group has been set up within the Research Culture plan to canvas the views of and seek to support career advancement of Research Associated PTO staff.

(2017_A 3.6) Success in this measure was difficult to quantify as 'research application' was not clearly defined in the last action plan. The issue of increasing grant applications for all academics remains a key strategy for improvement by CCE. The Research Committee has been tasked with identifying appropriate targets and mechanisms of support to meet those targets, such as peer review of submissions. Membership of the Research Committee has cross-over with the AS SAT to ensure this perspective is included.

2.1.7 Key area 4: Flexible working and career breaks

Progress

- Large increase, from nine (2013-15) to 29 (2016-2021), in the number of instances where academic, PTO and research staff availed of flexible working arrangements.
- 100% uptake of “School Returners Policy”.
- 100% return rate for staff that took maternity leave.

Room for improvement

- Low number of academics formally taking paternity leave.

Following actions to raise awareness of equality and diversity policies (2017_A 1.3) we have seen a significant increase in those availing of flexible working arrangements (18 F ; 11 M), particularly by males (only one male took paternity leave between 2010-2015, and no males took any other type of leave). Since 2017, there has been a 100% uptake of the “School Returners Policy” for eligible staff, including two staff members that have benefited from ‘long-term illness’ action. A quote from a beneficiary is provided below:



Flexible / agile working arrangements also scored highly in the 2021 Staff culture survey:

- 85 % of staff strongly agreed / agreed that “*My department enables flexible working*”
- Only 4 % of staff disagreed / strongly disagreed that “*The timing of departmental meetings and events takes into consideration those with caring responsibilities*”
- Only 6 % of staff disagreed / strongly disagreed that “*My department provides staff with support around all types of caring leave*”

The number of academics officially taking paternity leave was evidently low. Conversations with academic staff that were eligible but did not formally avail of

parental leave indicated that all had taken their allocation but had not completed the appropriate HR form. We will make sure that this requirement is fulfilled in future.

We will continue to ensure that progress in this area is maintained and those with caring responsibilities are made aware of the support available (2022 A_3.1-3.6).

Key Area 5: Organisation and Culture

Progress

- More gender-balanced representation in influential School Committees.

Room for improvement

- Managing staff workload.

The increase of females in senior positions has had a knock-on effect on female representation within influential School committees (SEB: 5 % increase; Research committee: 12% increase), Appendix 2; Figure 33).

A new WAM was introduced in 2017 which accounts for teaching and administrative duties on a pro-rata basis. It is concerning that 2021 staff survey indicated that < 25% of academic and technical staff agree / strongly agree that “Workloads in my department are allocated fairly”. Focus group feedback has indicated there is a lack of transparency and flexibility in WAM. Discussions are currently underway to address these issues and explore this possibility of including research activity credits in an updated WAM (2022_A 4.1).

2.1.8 Barriers and facilitators

The dynamic nature of SAT membership and the impact of unexpected events (e.g. Covid) has highlighted the need for a more streamlined approach to role succession, particularly when key SAT members leave. Future actions will ensure the continuity of SAT work during transitional periods (2022_A 1.3 & 1.4).

In our experience, it is very challenging to meet high response rates for survey participation from staff and students without constant ‘pushing’ from SAT, thereby increasing an already demanding workload. National student surveys (PRES, PTES, and NSS) may be used to gather feedback from UGs / PGTs / PGRs but currently EDI related questions are limited. We will liaise with QUB Graduate School to explore the possibility for lobbying national student survey facilitators to increase the level of pertinent EDI related questions in future (2022_A 1.6).

Covid disrupted the delivery of many of our UG student recruitment activities in the ‘in-person’ style that we had intended. However, the transition to virtual delivery enabled us to engage with a wider range of students than we had previously. A similar effect was seen in our seminar series. The number of females that accepted seminar invites increased significantly due to the possibility of remote delivery. In future, we intend to

have a blended approach to both student recruitment activities and seminar facilitation and explore opportunities in other areas where this approach could be applied.

2.1.9 Main learnings and outcomes from the evaluation of the action plan.

- A centralised reporting system (MS Teams) that all SAT members can update and access in real time is very beneficial for monitoring progress, reacting to issues that may arise and ultimately securing better outcomes.
- We need to improve communication of gender equality issues at a school level e.g. we have observed, anecdotally, that some academic staff were unaware that our female chemistry numbers are below UK averages.
- Whilst we tend to focus on areas where there is room for improvement, we must be equally mindful of areas where progress was achieved with a view to sharing best practice that helped us achieve our goals.

2.2 Key priorities for future action

Whilst we are delighted that progress has been made across all five key priority areas in our previous action plan, we equally recognise that work remains to be done to continue to break down barriers and to address gender inequality within our School. We are confident that the lessons learned in the implementation of our previous action plan will help us to further bridge the gender equality gaps within our School.

Using the RAG status of our previous action plan, analyses of mandatory data sets and survey / focus group feedback for guidance we have identified several key priorities:

Key priority 1: Improving procedures for SAT role succession and tracking action plan progress.

As discussed in section 1.4, recurrent turnover of SAT members can sometimes impede delivery of actions due to incoming member's unfamiliarity with AS processes and responsibilities. To mitigate this, we will produce an induction document for all new SAT members a clear understanding of AS process and their responsibility in the delivery of actions. Additionally, current SAT co-chair(s) will remain on SAT for a period of six months at the end of their tenure to facilitate a robust transition and to ensure an adequate handover to the new co-chairs. Also, all AS responsibilities will be clearly stated in key CCE role descriptions e.g. DE, DPGR, DR etc. when advertised. (2022_A 1.3). The wide breadth of AS associated activities that take place within CCE on a regular basis have been difficult to document in the absence of a centralised reporting system. We will implement a project management approach to overcome these challenges (2022_A 1.4)

Key priority 2: Establish methods to assess intersectional inequities in our School leading to new objectives / actions to address identified inequalities.

Traditionally, SAT has focused predominately on gender equality without factoring in intersectionality / protected characteristics. We would like to better understand and react to issues relating to intersectional inequalities that affect our School. For example, a recent conversation with a female student has highlighted that there may be opportunities for us to enhance the classroom / laboratory experience of neurodiverse students within our School. We now plan to assess the learning experiences of neurodiverse UG and PG students in the coming academic year with a view to establishing discipline specific pedagogical initiatives that support with a wide range of neurocognitive functioning. We are keen to explore further opportunities to identify intersectional inequities based on gender, race, ethnicity, sexual orientation, gender identity, disability, class and other forms of discrimination in our School. To this end, we will recruit additional SAT members to better reflect interests of 'intersectional' staff members and students, (2022_A 1.1) and conduct a race and ethnicity audit of CCE leading to new objectives / actions to address identified inequalities. (2022_A 1.2).

Key priority 3: Female student recruitment

As discussed in section 1.3.2, our female UG CHM population is 42 % (down from 45 % in 2016/17) and 6 % below the UK average. Whilst the proportion of UG applications to chemistry are in line with UK average (48 %), 'acceptance of offers' is lower (33 % in 2021). Focused outreach and recruitment activities to improve female 'acceptance of offers' is therefore a priority (2022_A 2.1). We also intend to grow overall female numbers in CHE pathways via outreach and recruitment initiatives, e.g. by engaging directly with maths, physics and chemistry teachers to promote chemical engineering to female students, and maintain progress in PGT programs.

Key priority 4: Female academic recruitment and career development.

Although much progress has been made since our last application, Appendix 2 Figure 2 shows the key transition points leading to disproportionate underrepresentation of females: PDRA to lecturer (41 % to 29 %) and SL / Reader to Prof. (42 % to 8 %). CCE is committed to supporting the career progression of all staff, and particularly ECR and new academics and we have identified support for PDRAs as a key priority and will take the action to create a new ECR Academy to support development, peer support and progression for all early career stage staff, including PDRA, Fellows and newly appointed Lecturers. (2022_A 3.5). We recognise that due to the shorter contract nature of PDRA appointments they can sometime feel divested from voicing their role and contribution in CCE. By widening the remit of the group to include ECRs such as Fellows and new Lecturers it will give PDRAs better direct access to peers that are closer to the career transition points they face, but who themselves have progressed successfully. This new group will be led by a co-ordinator and provide direct link to the senior management about the challenges and needs facing ECRs. The group will work in conjunction with the support offered centrally by the QUB [PDC](#). With the success of eight female academics to promotion to SL or above we can use this new critical mass of promotion success and expertise to help support other female academics in their progression pathways. Female academics will be paired with a

female PDR reviewer (2022_A 3.2) to support and provide counsel on their development goals. To address the further career transition points of all staff we will explore all staff opinions on the PDR process and assess impact through focus groups and staff survey data. In the staff culture survey only 40% agreed they found it useful, interestingly though when viewed by gender it was 60%F : 40%M, so we would like to understand more around the perceptions and effectiveness of the new PDR process (2022_A 3.3).

Key priority 5: Managing staff workload and well-being

From the Staff culture survey responses, it is clear that workload allocation remains a perceived issue amongst many staff (Q12 Staff Culture Survey) with only 30% agreeing that workloads are allocated fairly and is even lower amongst Academic (24%) and Technical staff (23%). However, it is noted that there is not a wide disparity when viewed by gender, suggesting this issue is across genders. A review of WAM will take place (2022_A 4.1) and will be extended to specifically cover Technicians. We will actively link in with QUB wide initiatives via the National [Technician Commitment](#). QUB is also trialling new centralised software (Simitive) for WAM and CCE will take part in this process. The goal of the process to increase the transparency, consistency, and fairness of the system. The outcome of the implementation of the model should be transparent to all staff.

The University offers flexible and agile working choices, financial support for childcare and support through network groups such as [PRISM](#), LGBT+ Allies and [iRise](#). We will raise awareness of these supports and engage in QUB initiatives (2022 A 4.2, 4.3).

Key priority 6: Reduce gender gap in UG Chemical Engineering and PGT degree attainment outcomes.

Males are far less likely to achieve 1st class honour degrees in UG chemical engineering relative to females (38 % of males vs. 52 % of females over the period of 2016-21). It is not clear why this is the case. Many studies have identified variances in gender performance in the STEM subjects. For example, Henry et al., (Henry et al., 2021) found that females received twice as many first-class honours awards as males in chemical engineering in the University of Technology, Jamaica. Furthermore, Fletcher & Boon (Fletcher & Boon, 2013) identified variances in coursework/examination performance with gender data for 408 students studying chemical engineering at the University of Strathclyde. Using such studies as a guide, we will establish a “gender attainment working group” to better understand the causes of, and reduce, this disparity. We aim to reduce this gap to 5 % by 2026 / 2027 academic year (2022 A_2.3).

Key priority 7: Supporting others and sharing sector-leading practices

We have recognised that there are many opportunities for us to support others in achieving their gender equality goals. For example, as the sole School of Chemistry / Chemical Engineering on the island of Ireland to hold a Silver award, we are in a unique position to support other schools in Ireland who are at an earlier stage of the AS process. We are planning to host a discipline specific 'All-Ireland' workshop involving all Irish HE Schools of Chemistry / Chemical Engineering to (i) provide a networking opportunity for all AS members involved in the promotion of gender equality in the chemical sciences in Ireland, (ii) to discuss the barriers that prevent true gender equality within our Schools and formulate solutions. Furthermore, we intend to rigorously promote and share sector leading practises that arise through the delivery of our action plan. For example, actions 2.2 and 2.3 will provide insights into the motivation of females to pursue chemical engineering and shed light on the reasons underpinning the high female degree attainment in this discipline relative to males. Dissemination of such findings can help shape future strategies for growing female numbers in engineering and influence pedagogical practices for examination of learning outcomes. We hope that such practices, coupled to our longitudinal improvements in addressing gender inequality, will put us in a firm position to apply for a gold award in our next application.


References

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Section 3: Future action plan

1. Action plan

CCE Departmental Athena Swan Action Plan 2022– 2027 Queen’s University Belfast						
<ol style="list-style-type: none"> 1. Broadening and Enhancing Self-assessment and Enabling Efficient Delivery of Action Plan 2. Advancing Student Recruitment and Support 3. Supporting Career Progression of All Staff 4. Enhancing culture and life at work 						
1. Broadening and Enhancing Self-assessment and Enabling Efficient Delivery of Action Plan						
No.	Objective	Action to date/Rationale for Objective	Planned Actions	Person/Group Responsible	Measures of Success	Timeframe (start / end dates)
1.1	Broaden SAT membership to improve focus on intersectional inequalities.	Traditionally, SAT has focused predominately on gender equality without factoring in intersectionality / protected characteristics. We would like to better understand and react to issues relating to intersectional inequalities that affect our School.	Recruit new SAT members to better reflect interests of ‘intersectional’ staff members and students.	SAT co-Chairs	At least 2 members of SAT to be from intersectional / diverse background	Review: September 2022 New SAT in place by January 2023.
			QUB focus groups (iRISE, PRISM, QUB Carers network, Staff Disability Support Network) to be consulted and invited to select SAT meetings.		Greater awareness of interests and issues in of BAME / LGBT+ / intersectional communities etc.	2023 onwards

					leading to 1 new objective per consultation.		
1.2	Evaluating intersectional inequality in CCE	We would like to have a clearer picture of potential intersectional inequalities within our school.	Data on student numbers and application success rates collated, analysed and reviewed across all UG pathways for gender, BAME, disability and intersectionality.	SAT co-Chairs / CCE Racial Equity Champions / QUB People and Culture / QUB Planning Office	Data analysis allows clear identification of potential intersectional inequalities leading to, at least, 2 new objectives.	June 2023 onwards	
			Conduct a race and ethnicity audit of our School			August 2024	
1.3	Improve awareness of SAT remit, processes, and responsibilities for new SAT members.	Recurrent turnover of SAT membership, particularly of SAT lead roles, can sometimes impede delivery of actions due to incoming member's unfamiliarity with AS processes / responsibilities.	Produce an induction document for new SAT members.	SAT co-Chairs / School Manager	All SAT members have a clear understanding of AS process and their responsibility in the delivery of actions.	April 2023	
			Current SAT co-chair(s) remain on SAT for 6 months handover when new co-chair roles commence			New SAT co-chair(s) is / are fully informed and aware of status of AS Action Plan.	Ongoing
			AS responsibilities clearly stated in key CCE role descriptions e.g. DE, DPGR, DR etc. when advertised.			CCE appointees in key roles are fully aware of their AS responsibilities.	At next roles advertised
1.4	Implement more efficient recording procedures for data monitoring / collection and reporting of progress on action plan.	The wide breadth of AS associated activities that take place within CCE on a regular basis have been difficult to document in the absence of a	Project management tool, e.g. MS Planner, will be used to permit SAT members to frequently report on activities / progress on actions plan.	SAT co-chairs.	SAT members engage with system to regular report on activities / progress on actions plan.	January 2023	

		centralised reporting system. Also, collection and monitoring of data that relates to specific aspects of our action plan e.g. committee memberships, has been challenging due lack of recording mechanisms. We will implement a project management approach to overcome these challenges.	Annual schedule created for data collection and analysis.		Calendar in place.	January 2023.
			Create a centralised depository for documenting consultation (surveys, focus groups) activities and associated actions.		Results of surveys / focus group discussions and actions are easily accessible by SAT members.	January 2023.
1.5	Increased formal recognition for gender equality work.	Currently only academic AS co-champion receives formal recognition for AS work	AS co-champion WAM credits in line with comparable CCE director roles.	SAT co-chairs / HoS / Deputy HoS / DE / School manager	Implementation into WAM for academics	June 2024
			SAT committee members receive appropriate credits in WAM		Updated PDR form for non-academics	January 2023
			PTO staff recognition – Specifically list gender equality work as part of PTO PDR reviews		Survey focus group of those undertaking gender equality work	June 2024
1.6	Inclusion of specific EDI Qs in NSS, PRES and PTES.	NSS, PRES and PTES surveys are conducted annually but contain few questions relating to EDI. To avoid survey fatigue this information is better collected in these surveys.	Liaise with QUB graduate school to explore opportunities to better survey students' opinions on EDI matters.	SAT co-chairs	Raised at higher level outside of School	December 2023
1.7	Ensure that AS activities, policies and initiatives (incl. transgender policies are	Whilst CCE AS activities, initiatives, policies etc are advertised on the CCE website and AS noticeboard it has been	AS included as a standing item at all School Board meetings (currently only included at SEB meetings)	SAT co-chairs	75 % of survey respondents report that they are aware of	

widely communicated throughout CCE.	recognised, anecdotally, that many staff and students may not be fully aware of AS related elements within CCE.	Bi-annual newsletter distributed to all CCE staff and students highlighting AS updates.	specific AS activities, initiatives, and policies.	March 2023 - ongoing
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2. Advancing Student Recruitment and Support

No.	Objective	Rationale for Objective	Planned Actions	Person/Group Responsible	Measures of Success	Timeframe
2.1	Increase number, and proportion, of female UG applications, offers and acceptance rates in chemistry and chemical engineering pathways.	Whilst the proportion of UG applications to chemistry are in line with UK average (48 %), 'acceptance of offers' is lower (33 % in 2021). We wish to increase female intake numbers into UG chemistry pathways and maintain high % of females in UG CHE pathways.	<p>Increase frequency of school visits targeting key geographical areas and demographics.</p> <p>Raise staff awareness of low % of female chemistry students in school relative to UK average.</p> <p>Maintain the 50 / 50 gender split of diverse male / female role models at chemistry and chemical engineering recruitment events whenever possible e.g. Science at Queens, Engineering Parents Evening, Chemistry at Work etc.</p>	Head of Outreach and Recruitment / Pathway coordinators / SAT co-chairs	<p>Increase the proportion of applications, offers and acceptance of offers for female chemistry applicants in line with HESA UK subject benchmark (currently 48 %).</p> <p>Maintain high % of females in UG CHE pathways (currently 34 %).</p>	By 2027

			Support chemistry and maths schoolteachers to promote chemistry and chemical engineering careers among their female students.			
			SAT to monitor and review recruitment literature, posters and website to identify any areas of gender bias and liaise with QUB comms and marketing to implement necessary changes.			Ongoing
2.2	Fully understand reasons behind our consistently high % of UG females in CHE pathways and disseminate findings.	CCE has consistently recruited above UK average females into CHE UG pathways. However, we don't fully understand the specific factors which influence this. We would like to determine what factors are at play and disseminate findings.	Design study to investigate this trend.	Lecturers in Education / SAT co-chairs / Head of Outreach and Recruitment	Study completed.	December 2025
			Disseminate findings to help improve overall female CHE UG numbers in UK and Irish Universities.		Disseminate findings directly to other UK and Irish University CHE schools / departments.	
2.3	Reduce the gap in UG CHE male under-attainment in degree outcomes.	A lower proportion of males obtained 1sts over the last 5 years (38 % M vs 52 % F).	Analyse A-level entry grades for male and female CHE students to see if there is a correlation with degree attainment.	DE / Lecturers in Education	Gap reduced to 5 %	2026 / 2027 academic year
			Organise CHE academic focus group to raise awareness of this issue and identify reasons why this might be the case e.g., does assessment type play a role?			

			Academic staff to monitor male student performance more closely and provide support when necessary.			
2.4	Improve completion rates for PGR females	Over 2016-21 period, 73 % completion rate within 5 years for females compared to 80 % for males over same period (51 F, 66 M in total)	Run focus groups with female PGRs to identify issues which may be contributing to this. Raise awareness of issues with supervisors / APR reviewers and provide support when necessary.	DPGR / Research Administrator	Improved rates of female PGR 'completion within 5 years' rate (> 80 %)	2026/2027 academic year
2.5	Supporting intersectional students	Currently we do not have a great understanding of the intersectional student experience in our school.	Run focus groups with 'intersectional' students to evaluate if protected characteristics, particularly gender, are affecting their student experience and evaluating areas where improvements could be made.	DE, SAT co-chairs, School Disability officer.	Data collection, resulting in at least one new objective	2024/2025 academic year
2.6	Widening Participation	Foundation courses for students from less advantaged backgrounds has high proportions from BAME and other intersectional backgrounds. More women apply and more are granted places.	Work with engagement managers to visit secondary schools/academies and QUB Widening Participation Unit to promote courses and attract more applications to our undergraduate courses.	Outreach & Recruitment, SAT	Data collection started and ongoing monitoring for goal setting.	Each annual admission cycle

			Collect and track data from this program to establish current base numbers			
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3. Supporting Career Progression of All Staff

No.	Objective	Rationale for Objective	Planned Actions	Person/Group Responsible	Measures of Success	Timeframe
3.1	Continue to monitor and influence recruitment processes to achieve greater gender parity across all roles.	Female academic recruitment in CCE has improved considerably over past 10 years but only 1 of the past 7 academic appointees were female. We must continue to monitor and influence recruitment processes to achieve greater gender parity in academic positions and within leadership roles in CCE. Participation in leadership roles will also bolster the citizenship achievement and credentials in promotion and progression pathways	<p>All CCE selection committee members to receive training on aspects of Equality and Diversity relevant to recruitment and are aware of gender imbalance in recent CCE recruitment campaigns.</p> <p>Include wording in advertisements that specifically encourages female applications.</p> <p>Female point of contact included in academic job adverts</p> <p>Distribute job adverts to Women in STEM networks</p>	HoS/SAT	Increase proportion of shortlisted females to 25 % (currently 14 %)	Next available academic position
			<p>HoS to actively seek to encourage Female applicants to School leadership/Director roles.</p> <p>Feedback from female academics will be sought to identify perceived</p>	HoS/SAT	Increase in female applicants for vacant Directorship/Leadership roles	<p>September 2025 for new leadership roles</p> <p>June 2023 for feedback on</p>

			barriers influencing their decisions to apply for these roles			barriers to applications for females
3.2	Ensure all staff have resources and support for career progression.	<p>The proportion of female academics applying for and attaining promotion has increased since 2017. We must monitor and maintain good practices that have influenced this change. However, the success rate for females is 50 % versus 57 % for males.</p> <p>Given the recent success in promotion and progression of female academic staff members these senior women can share their experience and expertise in the promotion procedure.</p>	<p>Publicise university guidelines around promotions.</p> <p>Invite HR to give presentation on promotion and PDR procedures.</p> <p>Mentoring for promotion candidates by recently promoted staff.</p> <p>Female Academics to be paired with Senior Female Academics for PDR</p>	SAT/HoS/School Manager	Increase in the success rate for females that promotion to 60 % (currently 50 %)	September 2024
		Sabbatical can be a beneficial tool to ringfence time and collaborative opportunities to lead to intensive research / grant writing	Clarify/implement School approval process for sabbatical applications	SAT / Research Committee / Education Committee	Information/procedure disseminated to staff	September 2024
3.3	Assess the impact of the new Professional Development Review (PDR).	A new University wide PDR process was introduced in 2020. Mixed responses were	Explore staff opinions on the PDR process and assess impact through focus groups and staff survey data.	HoS / School manager / Head of Technical Services	Increase in positive responses by 15 %	September 2024

		received from CCE staff regarding the usefulness of feedback received through the PDR process (Staff culture survey 2021 - Q 23). We would like to understand more specifically the reasons behind this mixed response to help improve the PDR process for all participants.	Formulate and implement actions based on findings.	/ SAT co-champions	for each staff category (Academic / PDRA / Technical / Admin)	
3.4	Monitor committee membership and mitigate against committee overload.	The need for gender balance across all committees can sometimes lead to a disproportionate time commitment for female staff. This can particularly affect PT staff.	Review committee membership annually, taking into account those on PT contracts.	HoS /Deputy HoS / School manager	Maintain fair and proportionate gender representation on all committees.	Census completed by December 2022 and monitored annually thereafter.
3.5	ECR support and mentorship	Due to many factors, including PDRA turnover & COVID, there has been a noticeable decrease of PDRA engagement with AS initiatives e.g. decline in postdoc forum engagement. We intend to increase PDRA participation in AS initiatives and support the career development of our PDRAs and extended to ECR Fellows and junior academics.	Establishment of a new ECR/PDRA group to identify supports that PDRAs would find beneficial to career development e.g. providing a mentor beyond primary supervisor.	SAT co-chairs / HoS/PDRA/ECR reps	Supports identified and group implemented and given sufficient resources	September 2023
			Promote QUB Postdoctoral Development Centre (PDC) training opportunities, workshops and events.	Research Administrator	CCE Postdocs are aware of PDC career development opportunities.	Ongoing
			Encourage and support female CCE PDRAs to apply for QUB "Postdoc Awards" that recognise the	Research Administrator / SAT	1-2 females per year applying for PDC awards.	September 2022 onwards

			exceptional contributions of postdocs to the University.			
3.6	Teaching Fellowships	Feedback has indicated that 'teaching fellowships' could be better advertised, that description is vague and that the experience gained may not always be useful for career progression.	Wider advertisement of Teaching fellowships	Education and Research Administrators / DE / HoS	Feedback from PDRA forum	September 2023
			Review the structure of 'teaching fellowships' to include targeted activities which will help candidates secure academic positions, such as mentoring and other career development opportunities	DE / HoS / SAT	Review completed	September 2023
			Clear guidelines and expectations around 'teaching fellowships' – Provision of information session/contact for potential candidates	DE / HoS	Information disseminated	September 2023

4. Enhancing culture and life at work.

No.	Objective	Rationale for Objective	Planned Actions	Person/Group Responsible	Measures of Success	Timeframe
4.1	Establishing fair and transparent workload allocation	24 % of academic staff and 23 % of technical staff agreed / strongly agreed that "workloads in my department are allocated fairly".	Review of WAM for academic staff	HoS / School manager / Line managers	Survey feedback shows an increased satisfaction rate	December 2023
			Review of work allocation with HoS and Technical Manager and couple			

			with QUB-wide Technician Commitment			
4.2	Mental Health and Wellbeing	45 % of academic staff agreed / strongly agreed that “My mental health and/or wellbeing are supported in my department”.	Wellbeing committee established within Faculty. Promote CCE points of contact for participation in QUB initiatives	HoS / School Manager	Survey feedback shows an increased satisfaction rate	December 2023
4.3	Increase awareness of flexible / agile working policies.	While there has been a large increase in uptake of flexible working in our School, there is still room for improvement. For example, no male availed of flexible working. Also, new polices around ‘agile working’ have been recently introduced which all staff may not be fully aware of.	Raise awareness of ‘flexible working’ and ‘agile working’ policies via CCE website, school board meetings, AS newsletter and AS noticeboard.	SAT / School Manager	Staff survey feedback shows widespread awareness (< 70 %) of QUB “flexible working’ and ‘agile working’ policies	December 2023

4.4	Maintain high proportion of female speakers in school seminar series.	We have achieved a high proportion of female speakers (44 %) in our Schools seminar series over the 2017-22 period. The organisation of future seminars series has recently transferred from a single CCE seminar series coordinator to two organisers representing CCE Research themes, Sustainability and Healthcare. We must ensure that all seminar organisers maintain high proportion of female speakers in our school seminar series.	Email from HoS to all seminar organisers requesting min 40 %F speakers in all sections Data on % F speakers gathered annually by SAT chair. Invite Honorary Professor female appointees from industry to give seminars to staff/students	HoS / Research deputy theme leads / Athena Swan co-champions	Proportion of female speakers is close to 50%.	Ongoing
4.5	Increase awareness around Menopause/Fertility Leave	These newly developed QUB policies are aimed to better support women and to provide flexibility around these important life stages. The policies	Promote the new QUB policies on Fertility Leave and Menopause amongst staff – provide direct link from School Athena Swan page Appoint a School contact for Menopause/Fertility Leave Include a question on awareness of the policies in the Staff Culture Survey	Athena Swan co champions/SAT, School Manager, CCE Line Managers	At least 70% awareness of these policies amongst Female staff members	December 2023
4.6	Supporting those with caring responsibilities	In the 2022 QUB staff pulse survey almost 1 in 5 of respondents said they had caring responsibilities for a	Raise CCE staff awareness, via school board meetings, CCE website, AS newsletter and AS noticeboard, of QUB resources that are available to	Athena Swan co-champions, School Manager,	Survey feedback shows awareness (< 70 %) of QUB 'Work Life	December 2023

		dependant older person(s) and almost 1 in 10 of respondents said they looked after a person/persons with a disability/disabilities'. We wish to raise awareness of QUB 'Work Life Balance Policies' that pertain to individuals in our School who currently have caring responsibilities (or may do so in the future).	carers, including the recently introduced QUB 'Carers Passport',	CCE line managers	Balance Policies' that pertain to carers.	
			CCE line managers attend an information session regarding the implementation of the 'Carers Passport'.		All CCE line managers familiar with the QUB 'Carers Passport' protocol.	January 2023
			Nominate a 'Carers point of contact' to provide advice on supports available. Contact details will be available on CCE carers webpage.		'Carers point of contact' is nominated and staff are aware that a point of contact is in place.	January 2023
4.7	Toilet facilities in DKB	Conversations with female staff members have highlighted that the number of female toilets in the DKB may be disproportionately low compared to male toilets given the increase in female staff and students numbers in recent years and the relative age of the building when historically student numbers were even more male dominated.	Audit M/F toilet ratio in DKB. If disproportionate ratio is identified, engage with Estates to re-assign.	SAT / HoS / Estates	Audit completed and re-assignment implemented if necessary	Audit completed and recommendations completed by September 2023
4.8	Nursing Mothers and Parents' Rooms	Nursing Mothers and Parents' Rooms are available to QUB staff and students returning to work or study after Maternity Leave, who choose to continue breastfeeding their babies.	Publicise access to the DKB Nursing Mothers and Parents' room on the CCE website, CCE AS newsletter & AS noticeboard	SAT / School Manager	Biennial survey feedback shows awareness of the availability of 'Nursing	December 2023

		<p>These rooms are also available to staff and students who are pregnant or undergoing IVF fertility treatment. We wish to promote the availability of a dedicated Nursing Mothers and Parents' room in the DKB building.</p>			<p>Mothers and Parents' rooms.</p>	
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Appendix 2: Data tables

Appendix 2: Data Sets

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Current composition of the School by gender; Student (2021/22) ; Staff (2020/21)

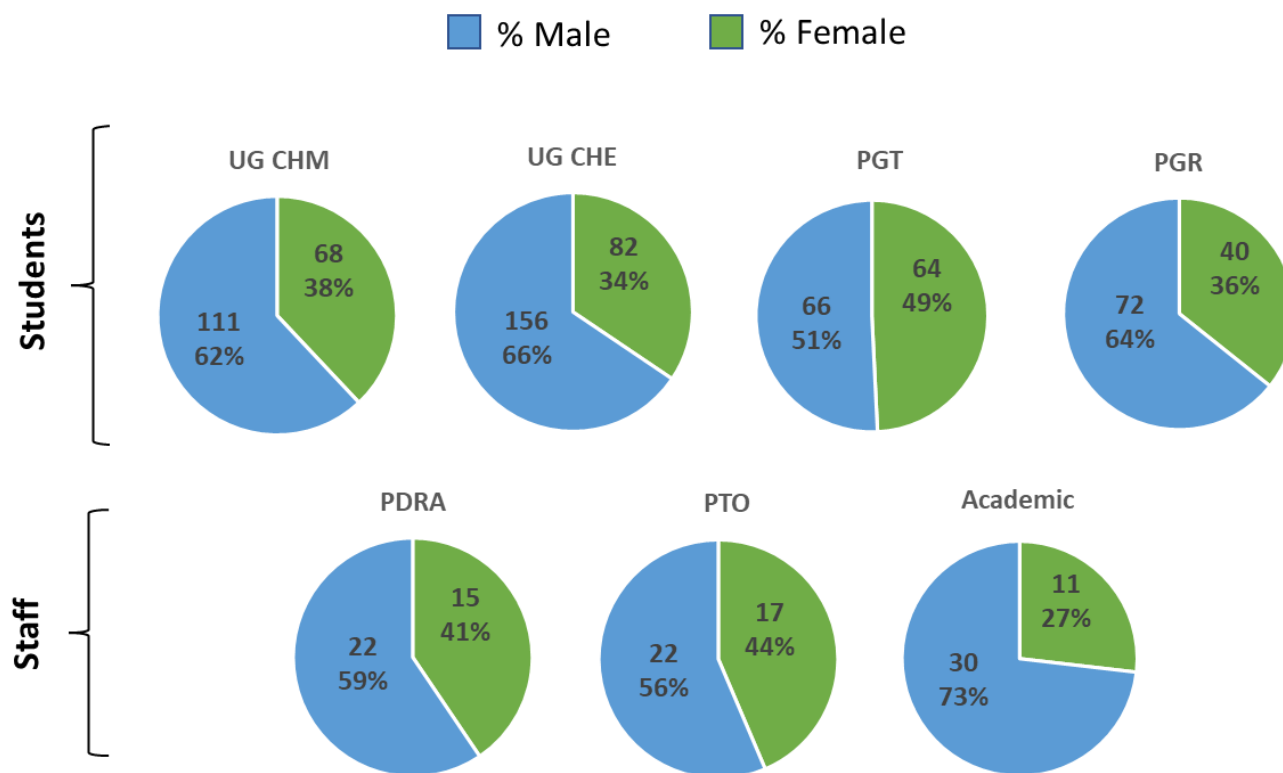


Figure 1. Current composition of CCE by gender. UG CHM: undergraduate chemistry; UG CHE: undergraduate chemical engineering; PGT: postgraduate taught; PGR: postgraduate research; PDRA: postdoctoral research assistant; PTO: professional, technical and operational.

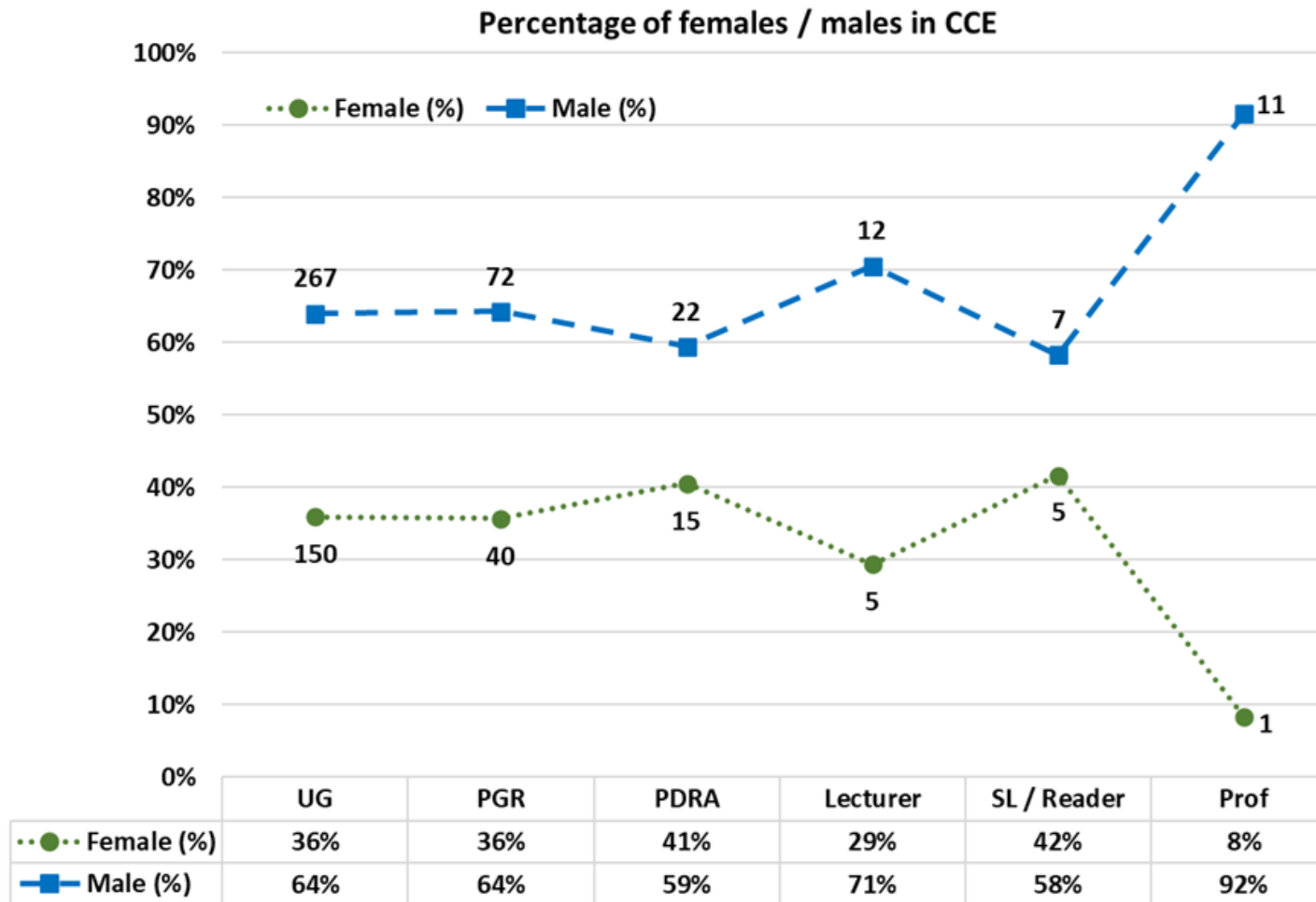


Figure 2. Scissor plot of gender profile of CCE population from UG to Professor.

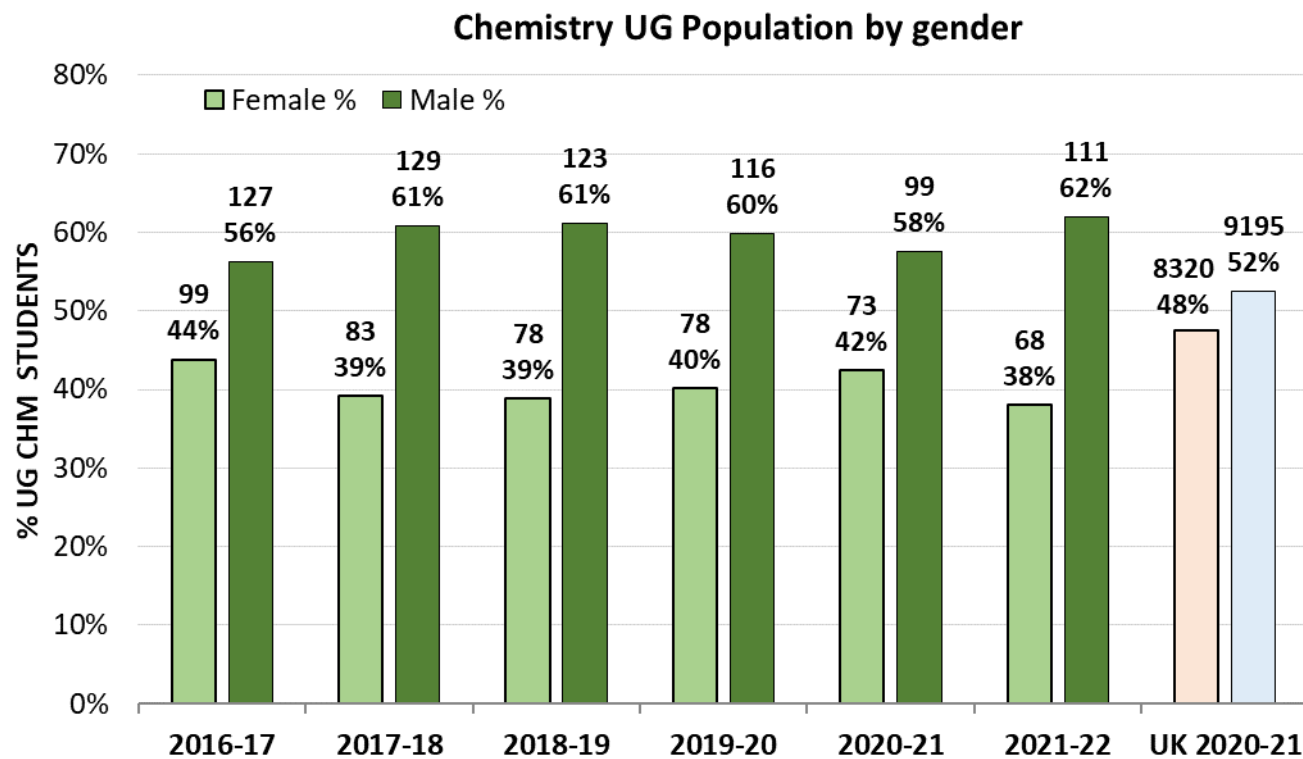


Figure 3. UG Chemistry / Medicinal Chemistry student population and HESA comparator data (Chemistry; JACS F1), 2016-2021.

CHM UG - Degree Classification percentage by gender

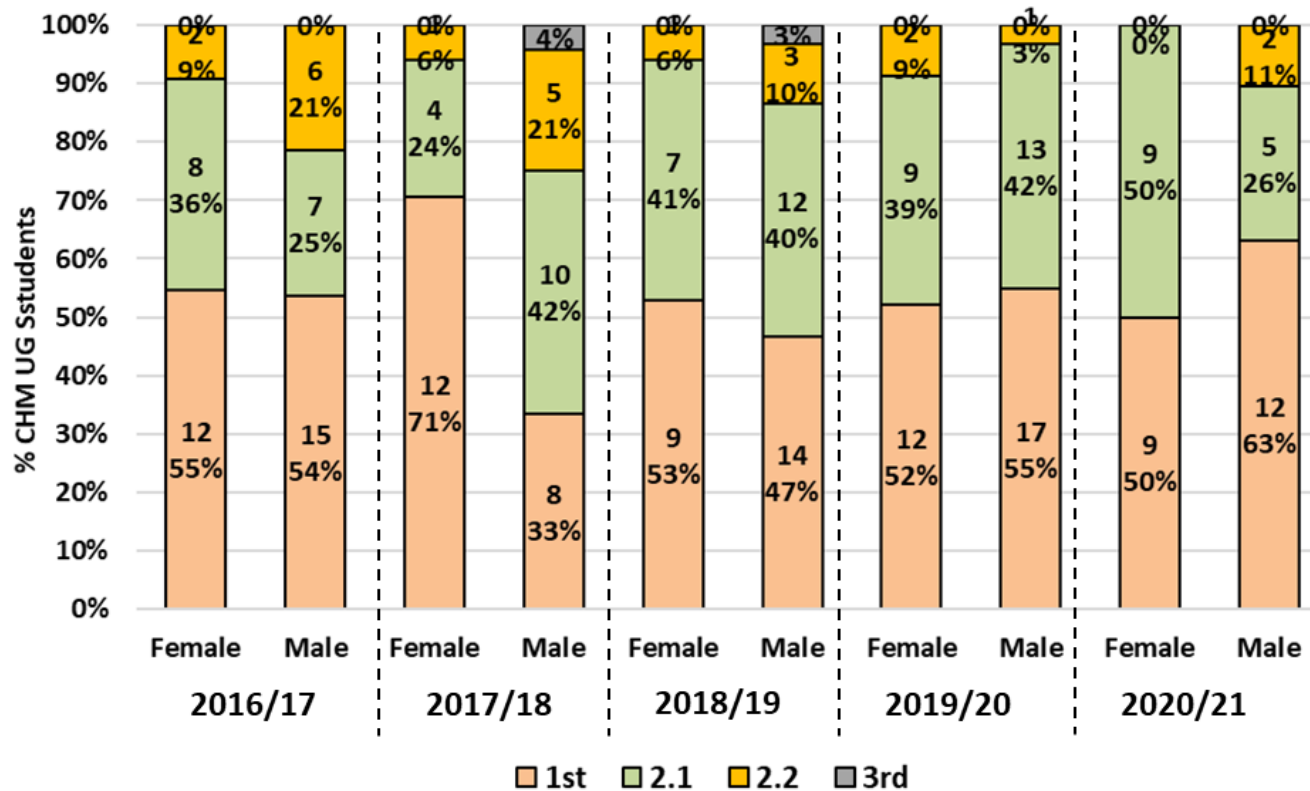


Figure 4. Undergraduate Chemistry / Medicinal Chemistry degree classification by gender.

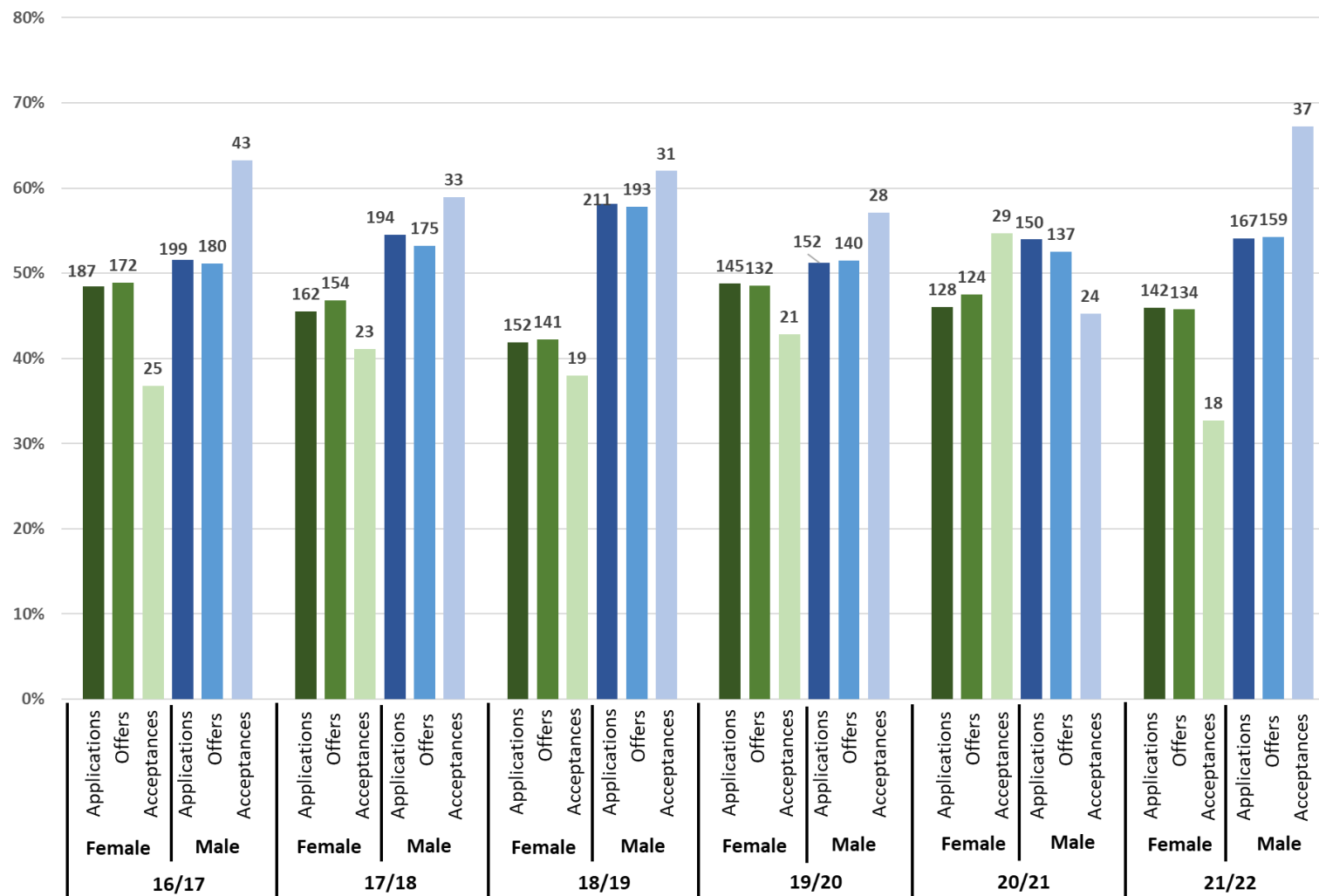


Figure 5. Percentage of Chemistry / Medicinal Chemistry UG applications, offers and acceptances by gender, 2016-2022.

Chemistry UG	2016/17		2017/18		2018/19		2019/20		2020/21		2021/22	
	F	M	F	M	F	M	F	M	F	M	F	M
Applications	187	199	162	194	152	211	145	152	128	150	142	167
	48%	52%	46%	54%	42%	58%	49%	51%	46%	54%	46%	54%
Offers	172	180	154	175	141	193	132	140	124	137	134	159
	49%	51%	47%	53%	42%	58%	49%	51%	48%	52%	46%	54%
% Offers / Applications	92%	90%	95%	90%	93%	91%	91%	92%	97%	91%	94%	95%
Acceptances	25	43	23	33	19	31	21	28	29	24	18	37
	37%	63%	41%	59%	38%	62%	43%	57%	55%	45%	33%	67%
% Acceptances / Offers	15%	24%	15%	19%	13%	16%	16%	20%	23%	18%	13%	23%

Figure 6. Table of Chemistry / Medicinal Chemistry UG applications, offers and acceptances by gender, 2016-2022.

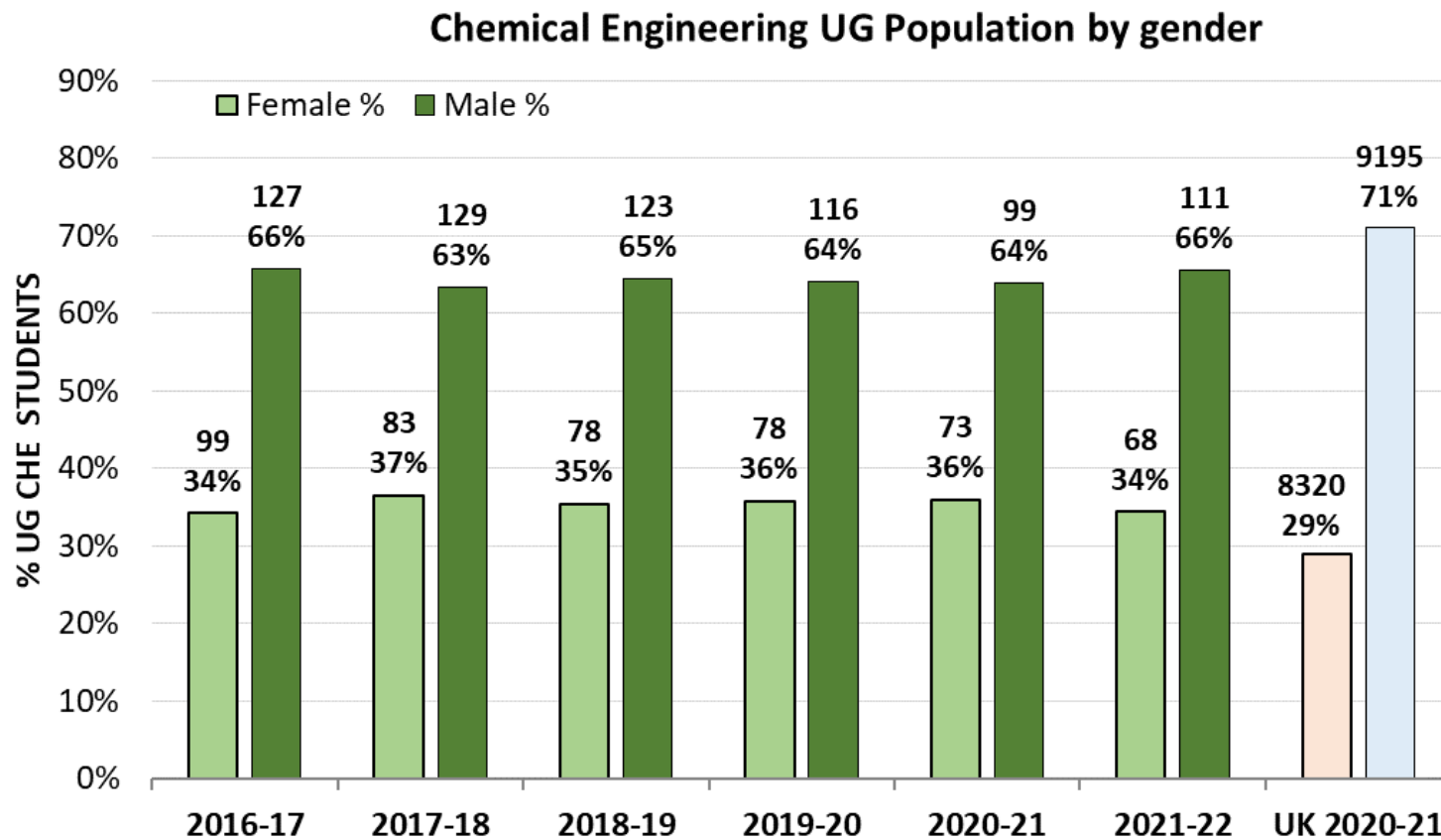


Figure 7. UG chemical engineering student population by gender and HESA comparator data (Chemical, process and energy engineering; JACS H8), 2016-2021.

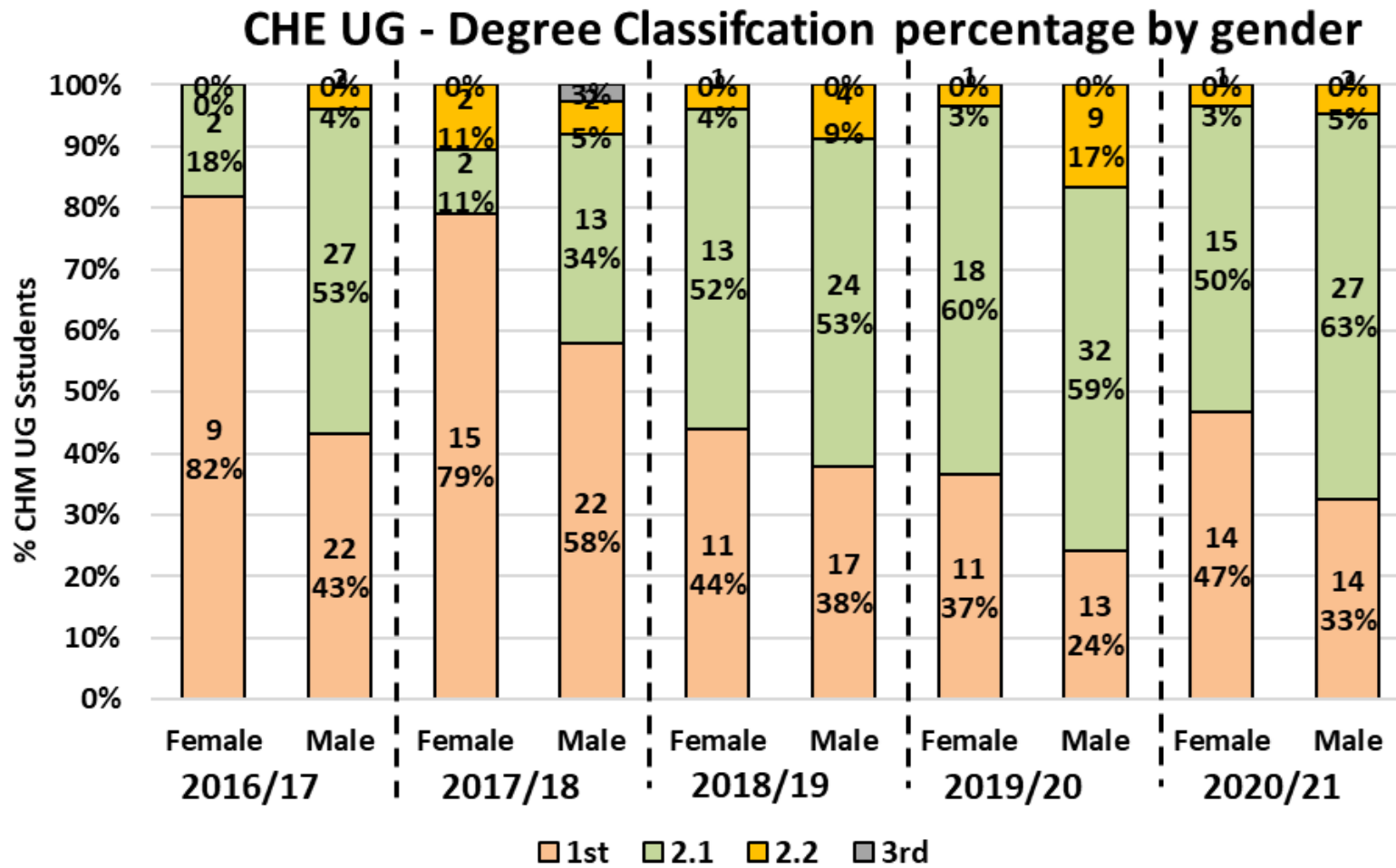


Figure 8. CCE Chemical Engineering UG degree classification by gender.

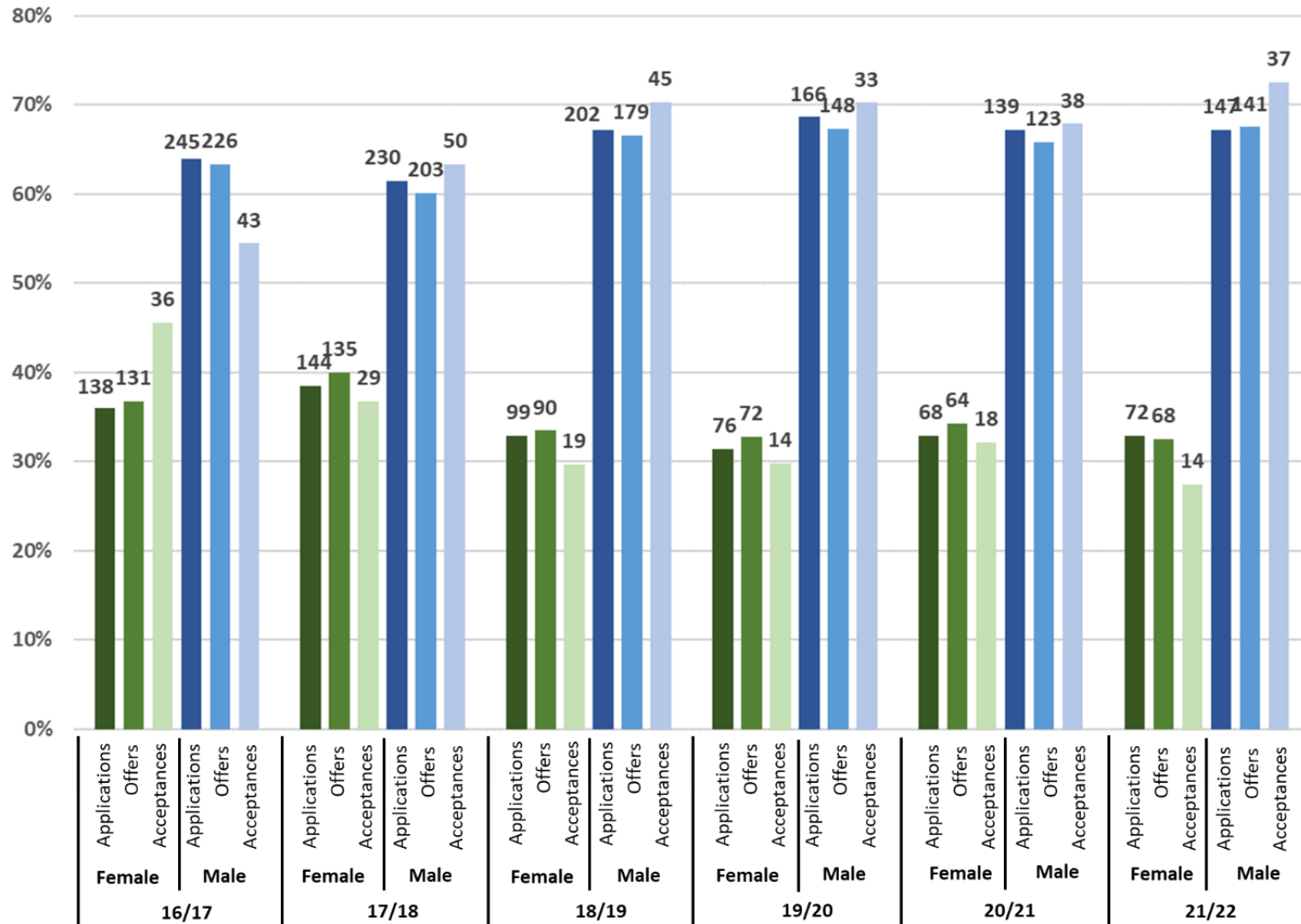


Figure 9. Percentage of Chemical Engineering UG applications, offers and acceptances by gender, 2016-2022.

Chemical Engineering UG	2016/17		2017/18		2018/19		2019/20		2020/21		2021/22	
	F	M	F	M	F	M	F	M	F	M	F	M
Applications	138	245	144	230	99	202	76	166	68	139	72	147
	36%	64%	39%	61%	33%	67%	31%	69%	33%	67%	33%	67%
Offers	131	226	135	203	90	179	72	148	64	123	68	141
	37%	63%	40%	60%	33%	67%	33%	67%	34%	66%	33%	67%
% Offers / Applications	95%	92%	94%	88%	91%	89%	95%	89%	94%	88%	94%	96%
Acceptances	36	43	29	50	19	45	14	33	18	38	14	37
	46%	54%	37%	63%	30%	70%	30%	70%	32%	68%	27%	73%
% Acceptances / Offers	27%	19%	21%	25%	21%	25%	19%	22%	28%	31%	21%	26%

Figure 10. Table of UG Chemical Engineering applications, offers and acceptances to by gender, 2016-2022.

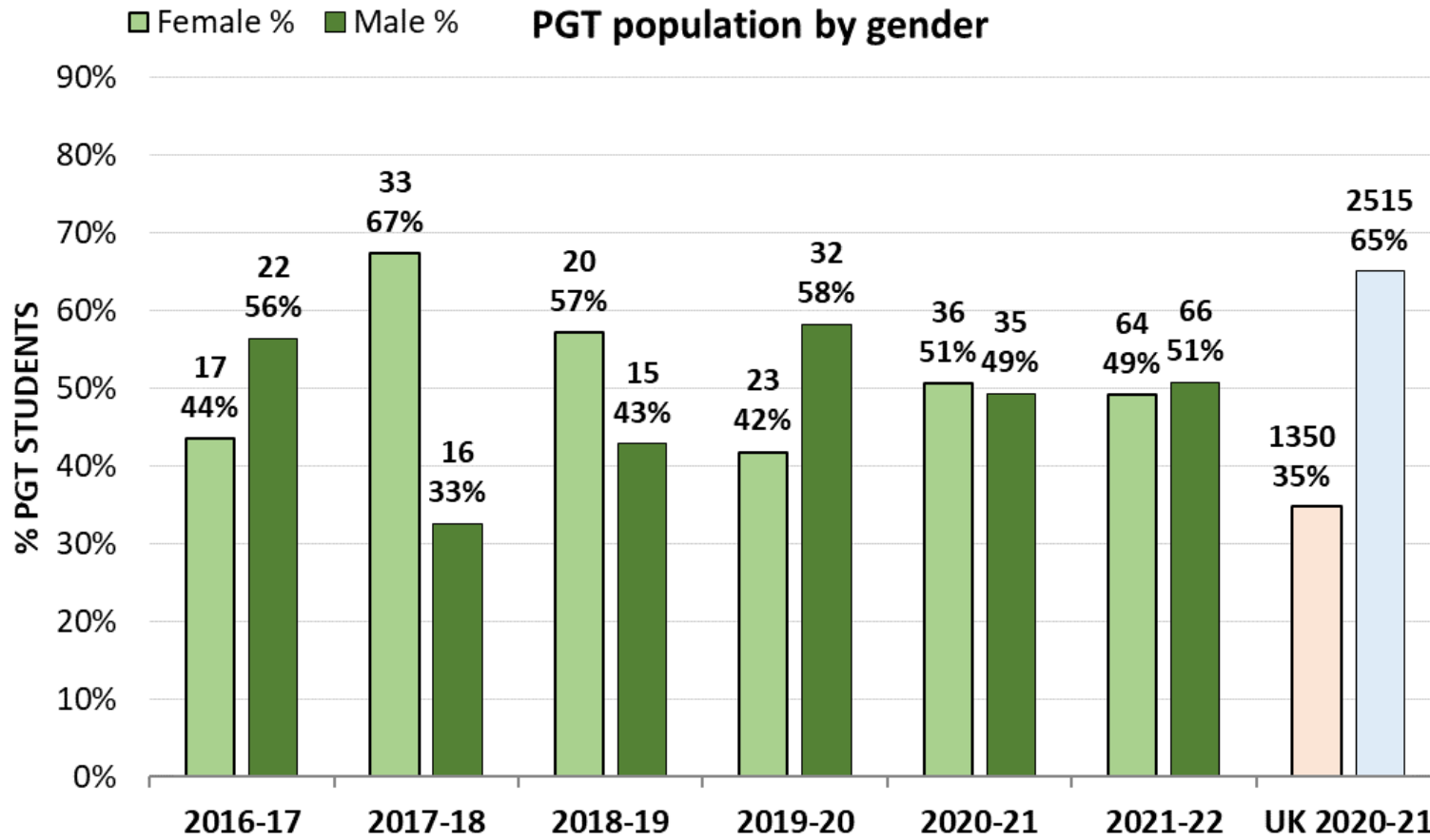


Figure 11. PGT student population by gender and HESA comparator data (HESA PGT ‘chemistry’ and ‘chemical, process and energy engineering’ combined data), 2016-2021.

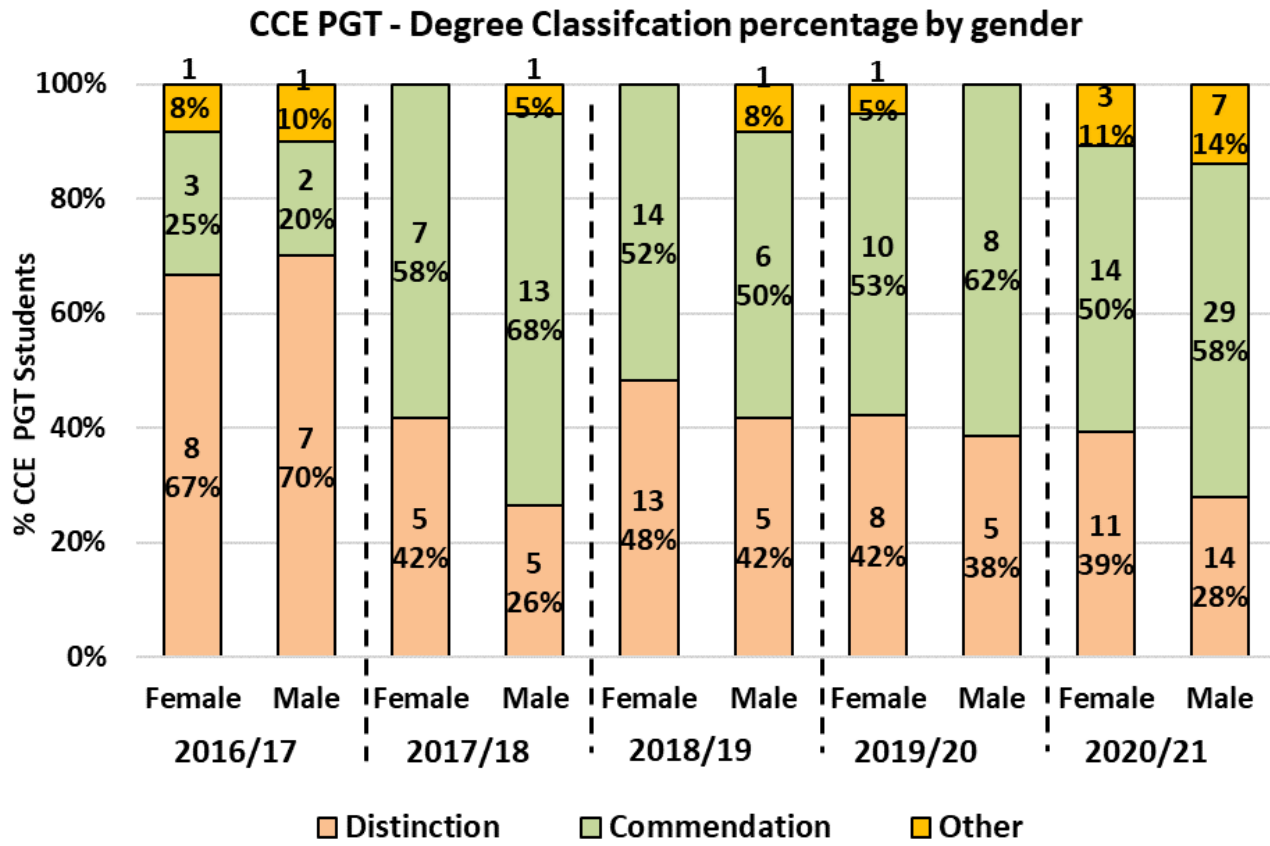


Figure 12. CCE PGT student degree classification by gender.

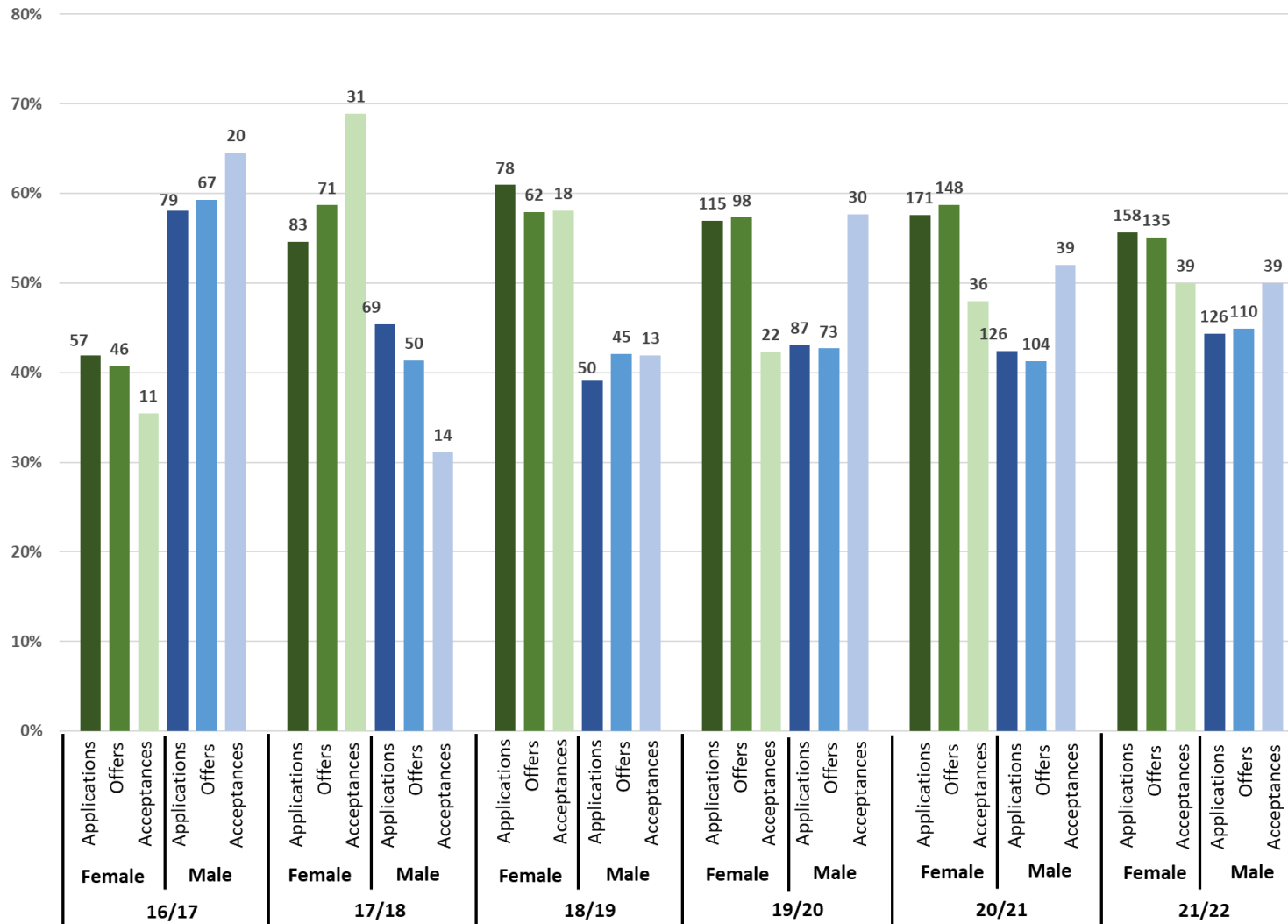


Figure 13. Percentage of Chemistry / Chemical Engineering PGT applications, offers and acceptances by gender, 2016-2022.

CCE PGT	2016/17		2017/18		2018/19		2019/20		2020/21		2021/22	
	F	M	F	M	F	M	F	M	F	M	F	M
Applications	57	79	83	69	78	50	115	87	171	126	158	126
	42%	58%	55%	45%	61%	39%	57%	43%	58%	42%	56%	44%
Offers	46	67	71	50	62	45	98	73	148	104	135	110
	41%	59%	59%	41%	58%	42%	57%	43%	59%	41%	55%	45%
% Offers / Applications	81%	85%	86%	72%	79%	90%	85%	84%	87%	83%	85%	87%
Acceptances	11	20	31	14	18	13	22	30	36	39	39	39
	35%	65%	69%	31%	58%	42%	42%	58%	48%	52%	50%	50%
% Acceptances / Offers	24%	30%	44%	28%	29%	29%	22%	41%	24%	38%	29%	35%

Figure 14. Table of PGT Chemistry / Chemical Engineering applications, offers and acceptances to by gender, 2016-2022.

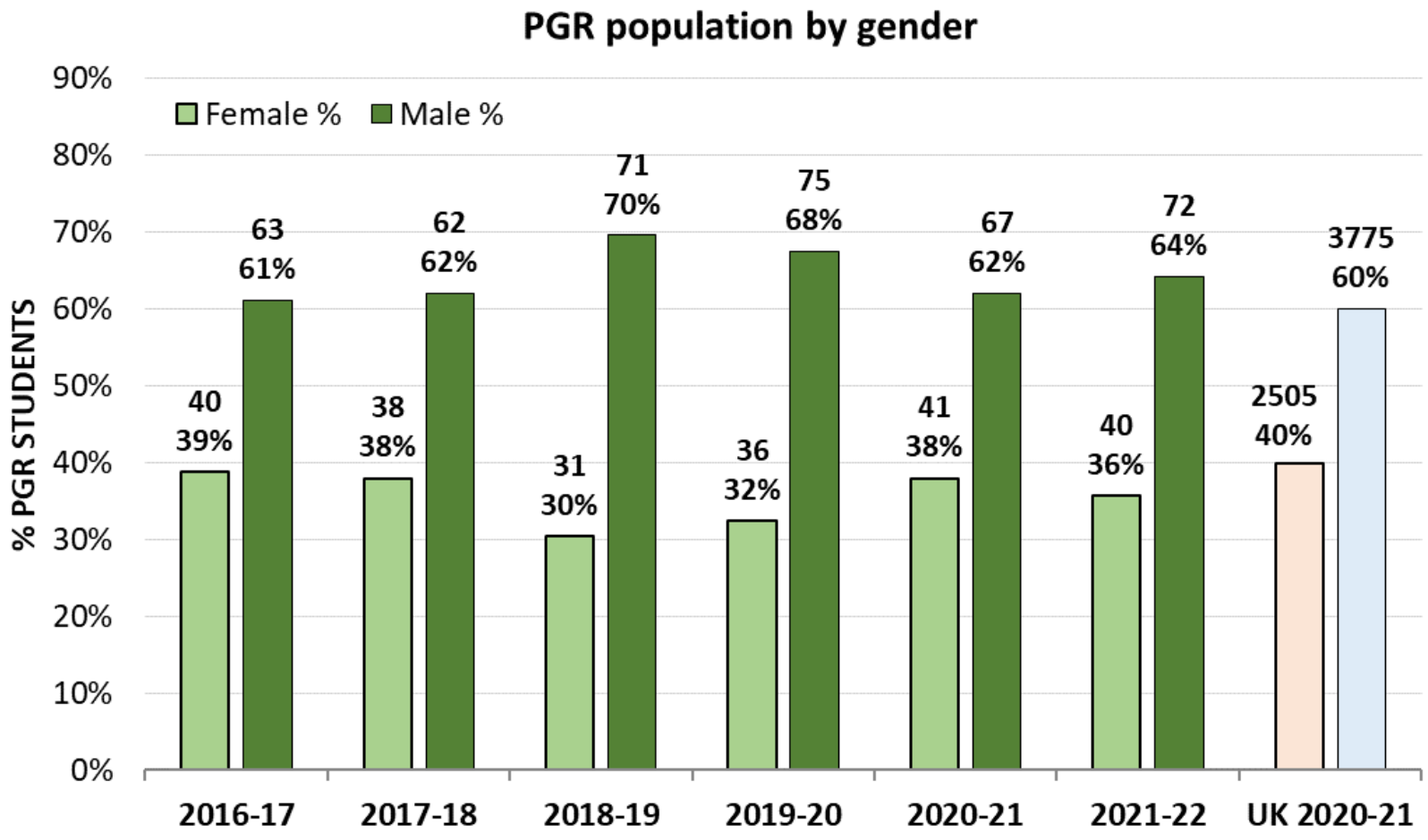


Figure 15. PGR student population by gender and HESA comparator data (combined HESA PGR ‘chemistry’ and ‘chemical, process and energy engineering’ data), 2016-2021.

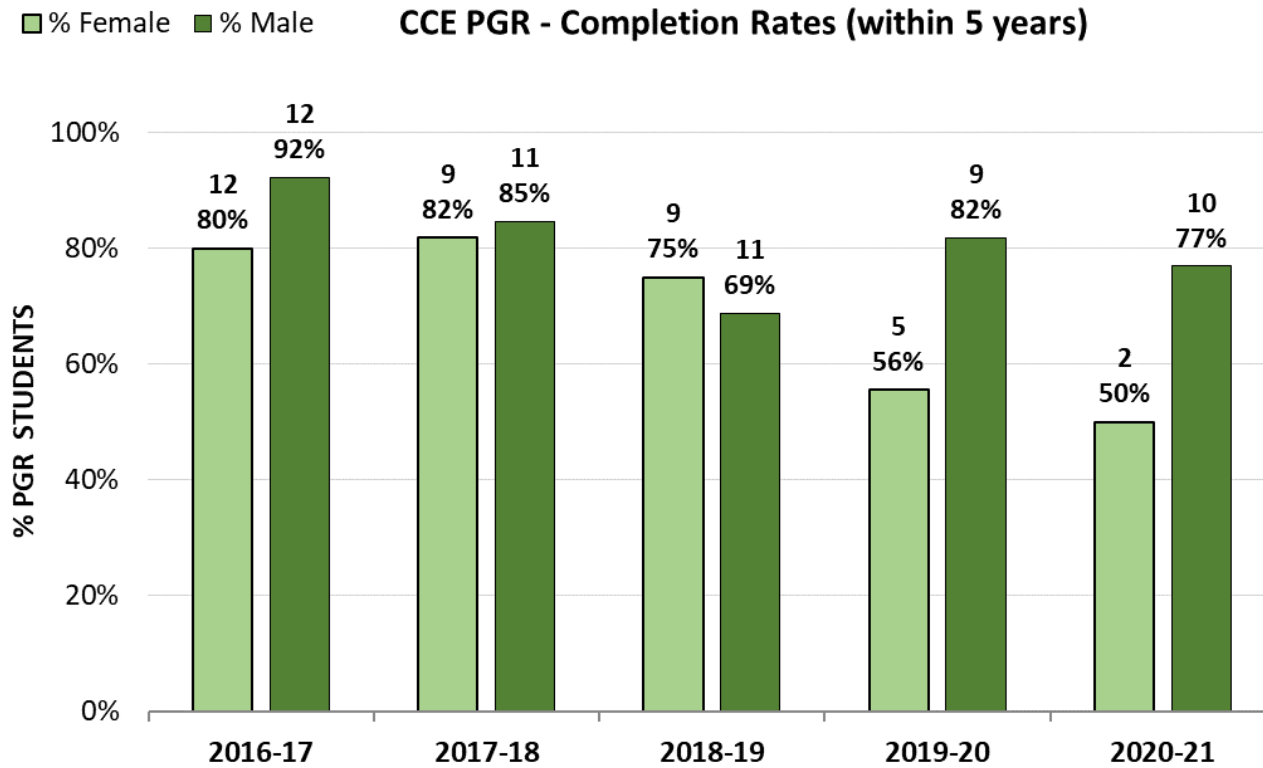


Figure 16. CCE PGR completion rates within 5 years by gender. Percentages calculated based on total number of females or males that completed with 5 years versus total number of females or males that completed in each academic year.

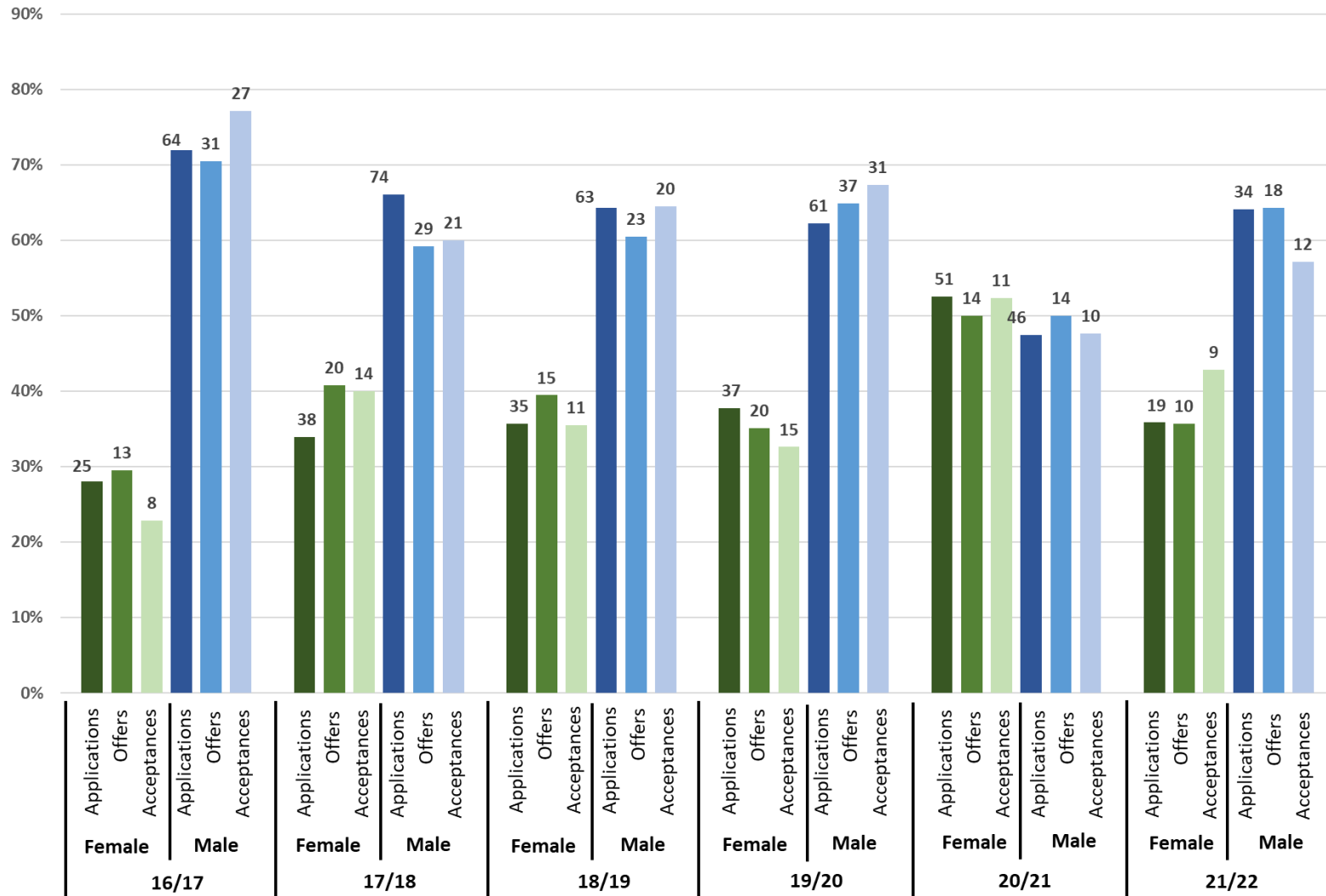


Figure 17. Percentage of Chemistry / Chemical Engineering PGR applications, offers and acceptances by gender, 2016-2022.

CCE PGR	2016/17		2017/18		2018/19		2019/20		2020/21		2021/22	
	F	M	F	M	F	M	F	M	F	M	F	M
Applications	25	64	38	74	35	63	37	61	51	46	19	34
	28%	72%	34%	66%	36%	64%	38%	62%	53%	47%	36%	64%
Offers	13	31	20	29	15	23	20	37	14	14	10	18
	30%	70%	41%	59%	39%	61%	35%	65%	50%	50%	36%	64%
% Offers / Applications	52%	48%	53%	39%	43%	37%	54%	61%	27%	30%	53%	53%
Acceptances	8	27	14	21	11	20	15	31	11	10	9	12
	23%	77%	40%	60%	35%	65%	33%	67%	52%	48%	43%	57%
% Acceptances / Offers	62%	87%	70%	72%	73%	87%	75%	84%	79%	71%	90%	67%

Figure 18. Table of PGR Chemistry / Chemical Engineering applications, offers and acceptances to by gender, 2016-2022.

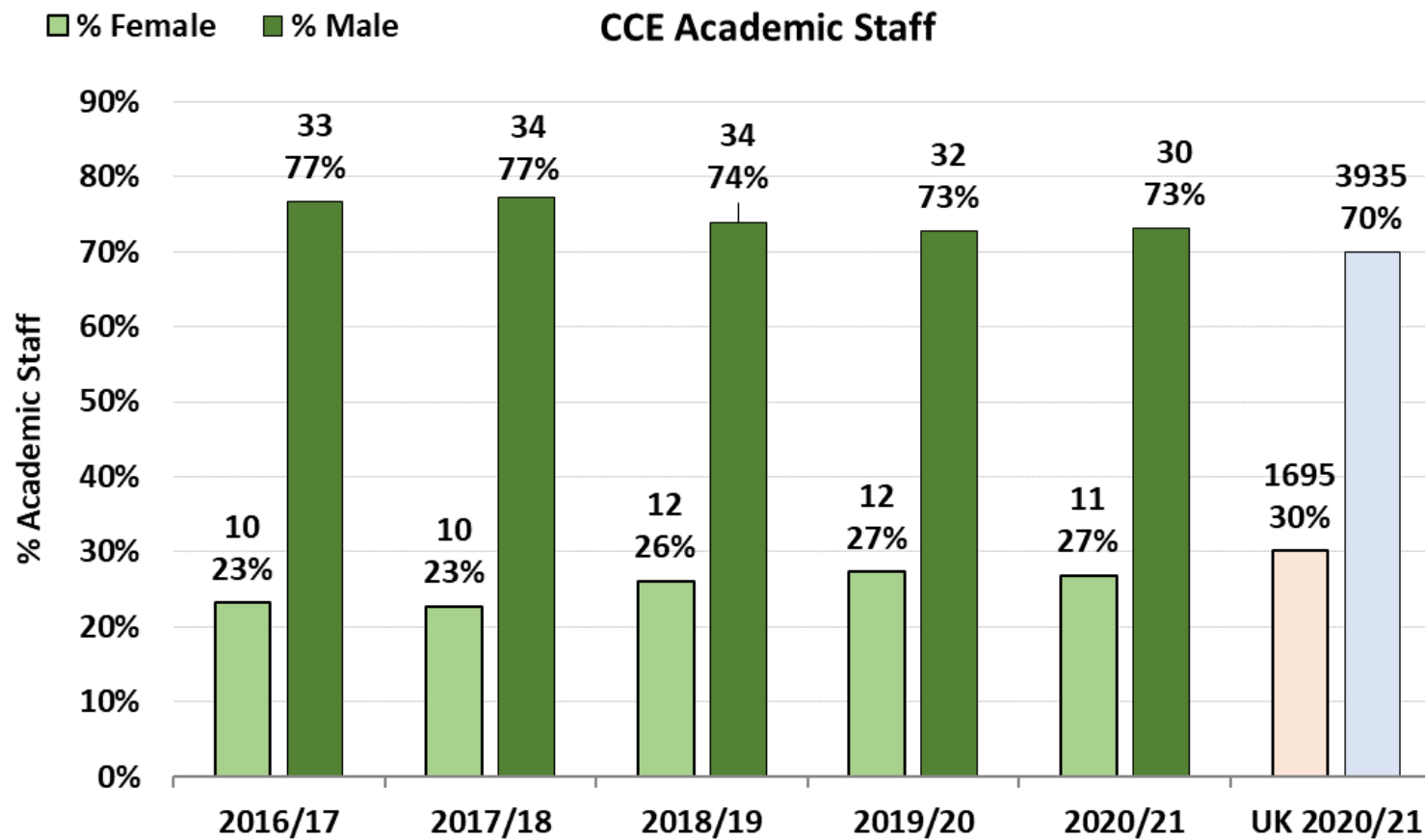


Figure 19. CCE academic staff by gender and HESA comparator data (combined HESA academic ‘chemistry’ and ‘chemical, process and energy engineering’ data), 2016-2021.

	Part Time		Fixed Term	
	Female	Male	Female	Male
Lecturer	█	█	█	█
Senior Lecturer	█	█	█	█
Reader	█	█	█	█
Professor	█	█	█	█
Total	█	█	█	█

Figure 20. Table of CCE academic Part Time / Fixed Term staff by grade.

Academic Promotions	Applications			Promotion			Success %			
	F	F eligible	% eligible applied	M	M eligible	% eligible applied	F	M	F	M
2016/17	█	10	20%	█	33	9%	█	█	50%	67%
2017/18	█	10	40%	5	34	15%	█	█	50%	40%
2018/19	█	12	0%	█	34	6%	█	█	n/a	50%
2019/20*	█	12	58%	8	32	25%	█	6	43%	75%
2020/21	█	11	27%	█	30	10%	█	█	67%	33%
Total	16	55	29%	21	163	13%	8	12	50%	57%

Figure 21. Data table of academic promotion outcomes by gender, 2016-2021. *New QUB academic progression procedure introduced in 2019/2020.

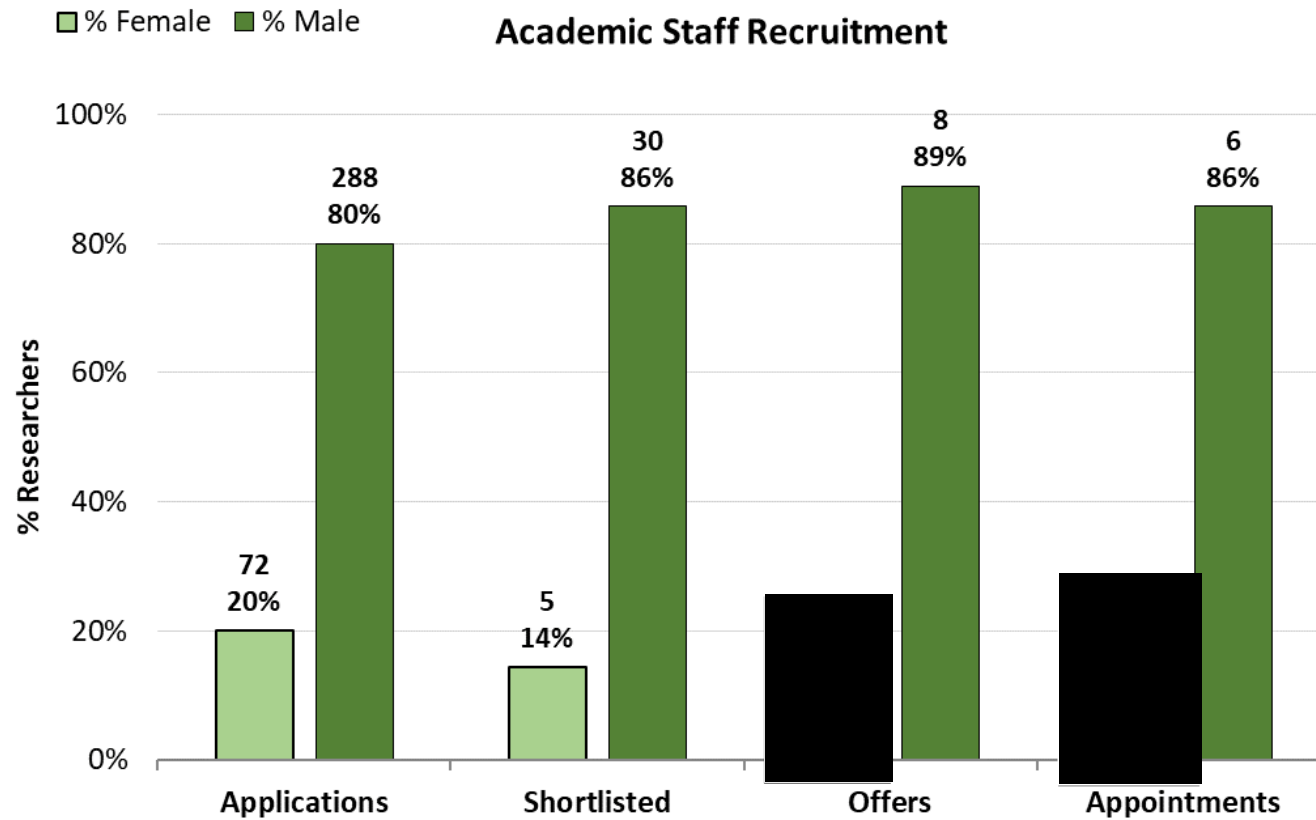


Figure 22. Academic staff applications, shortlisted, offers and appointments by gender, 2016-21.

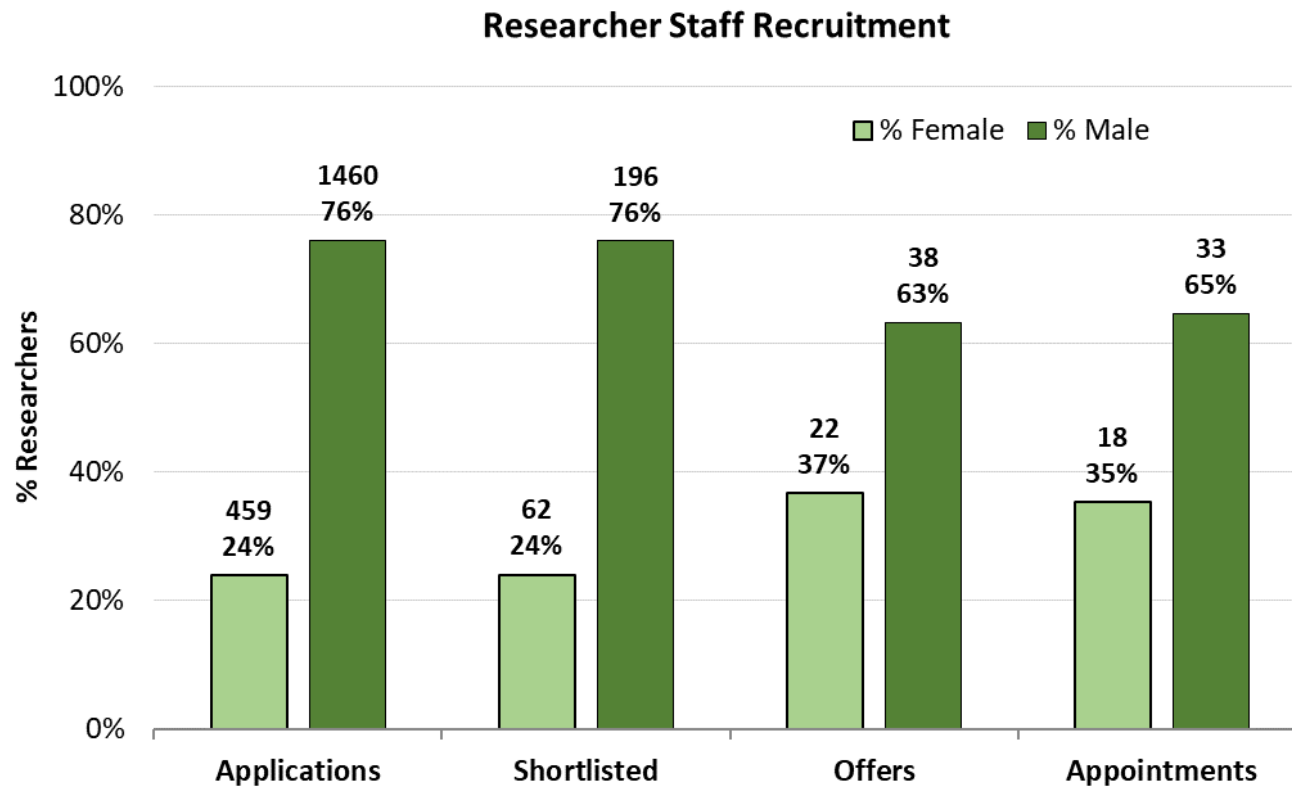


Figure 23. Researcher staff applications, shortlisted, offers and appointments by gender, 2016-21.

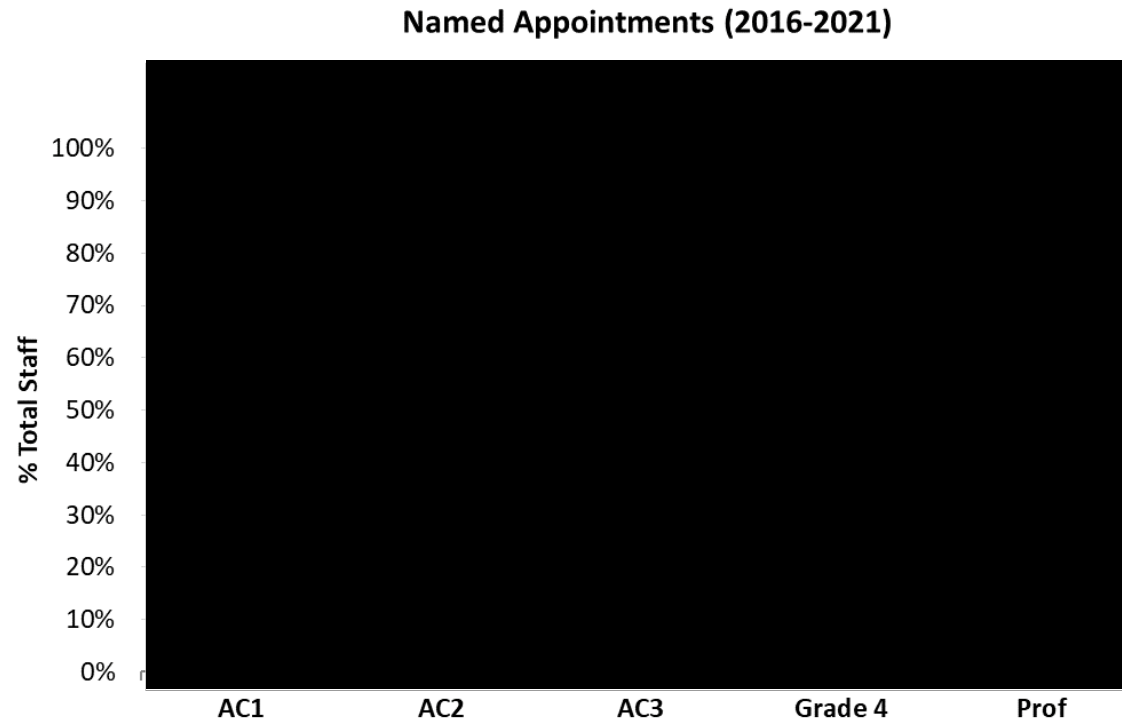


Figure 24. Named appointments by gender, 2016-21.

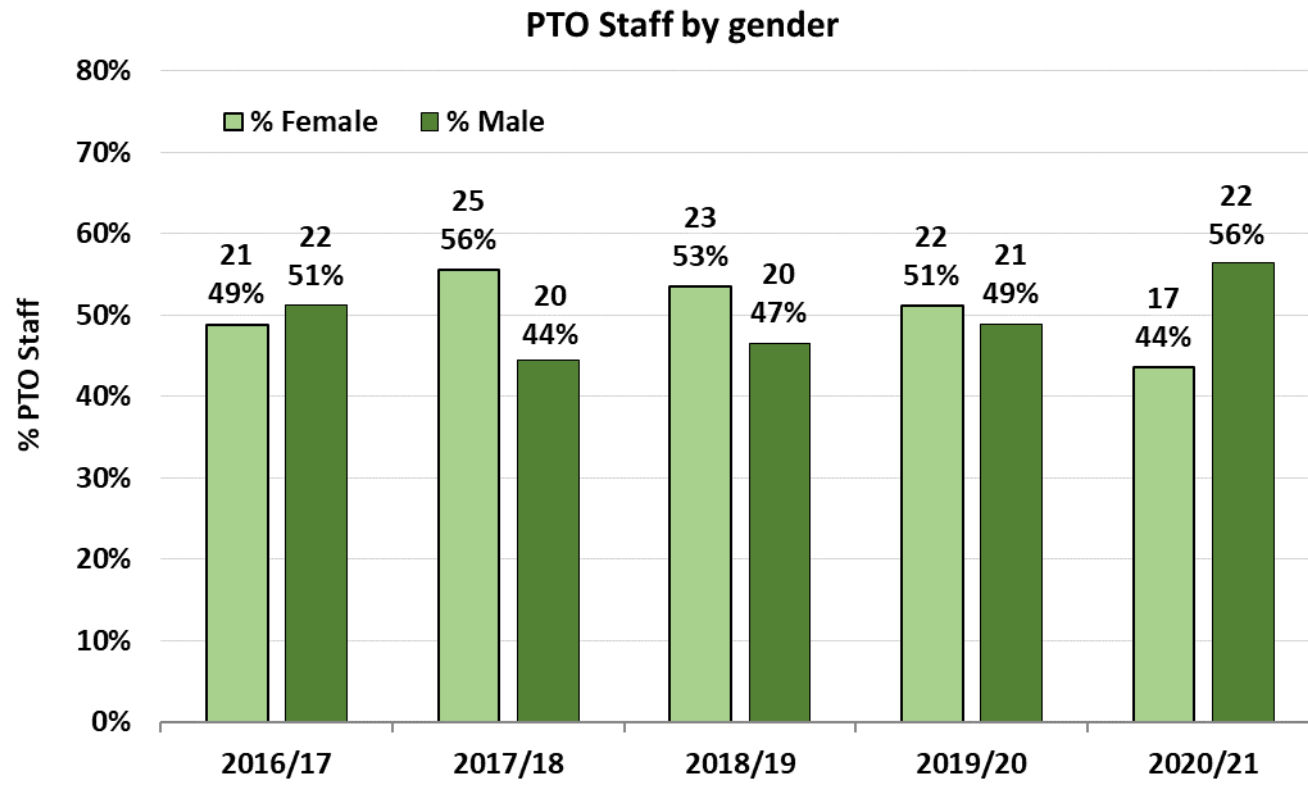


Figure 25. PTO staff by gender, 2016-21

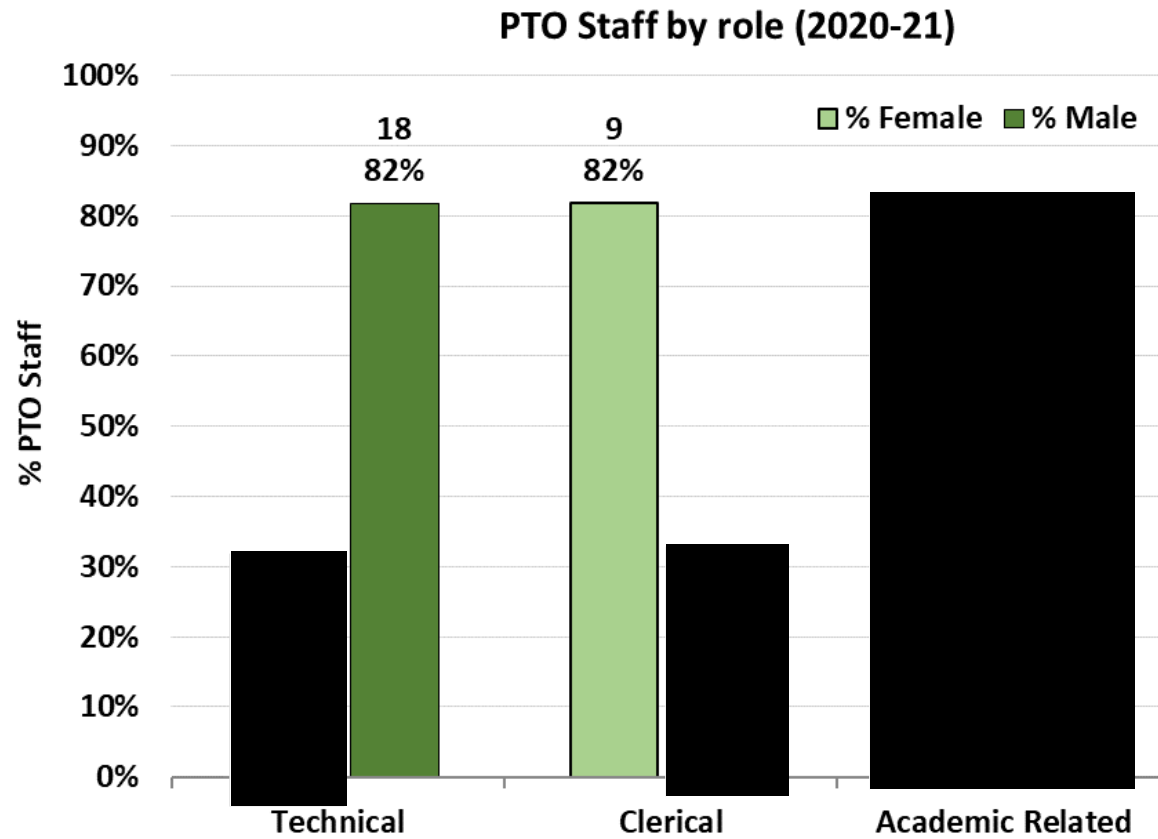


Figure 26. PTO staff by role, 2020/21.

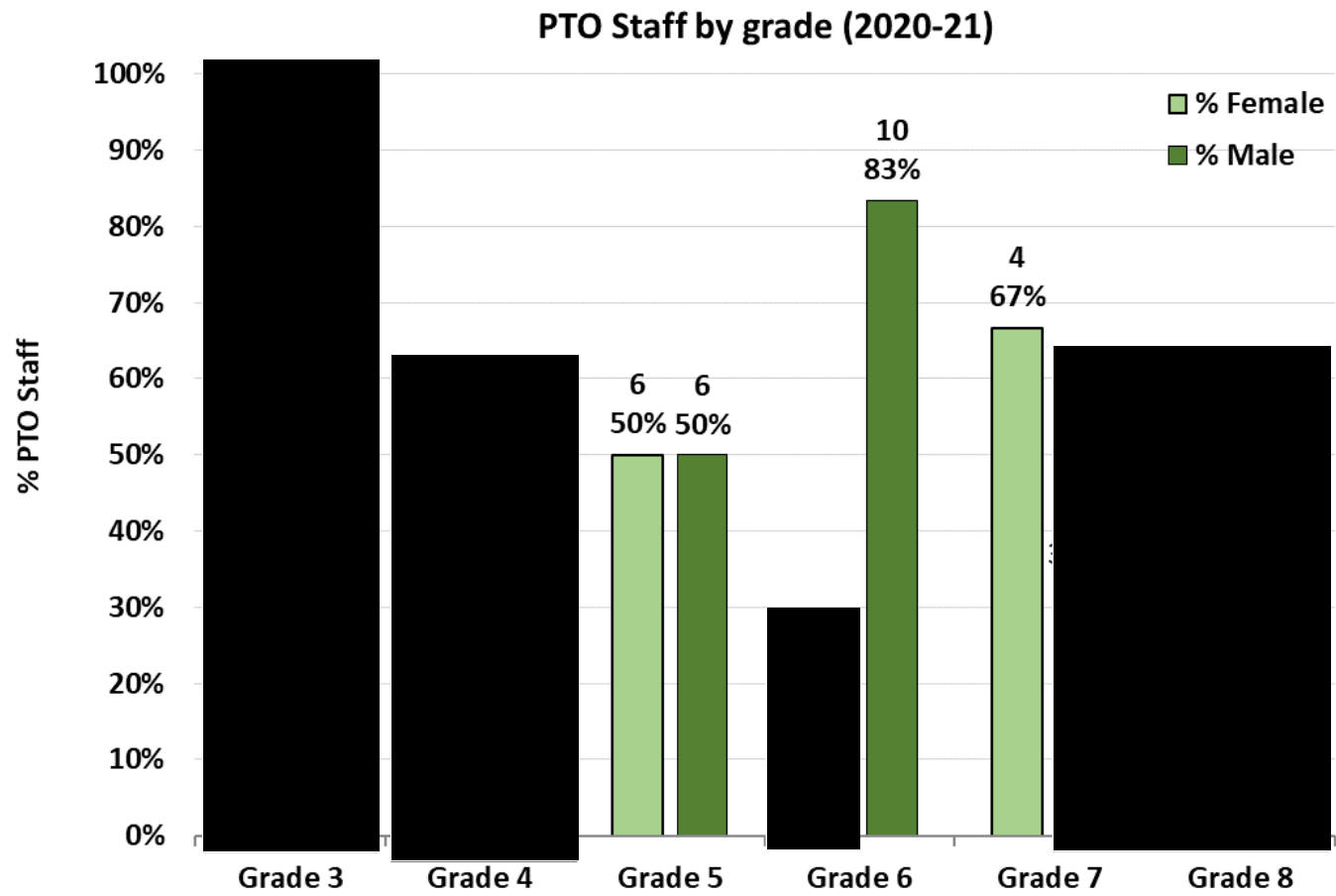


Figure 27. PTO staff by grade, 2020/21

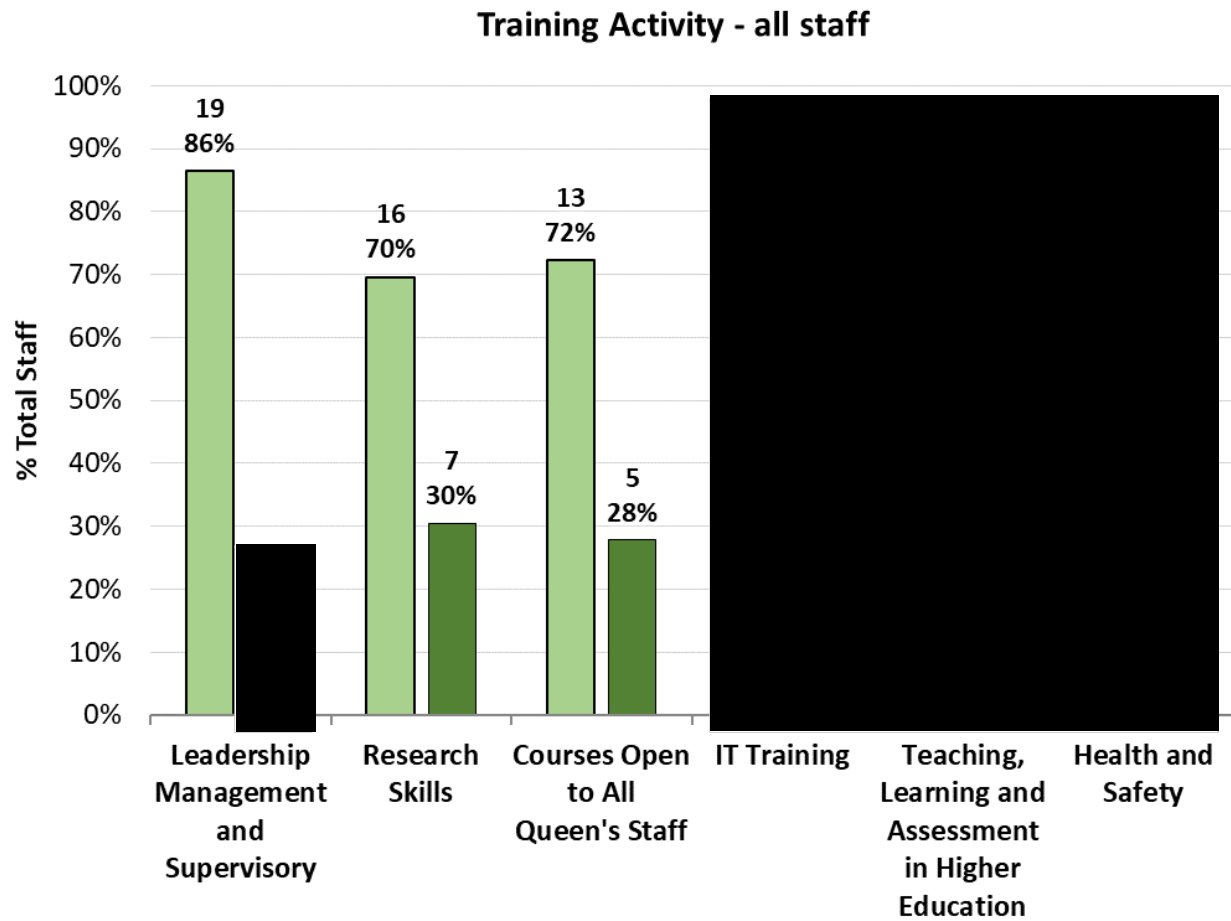


Figure 28. Staff training activity by gender.

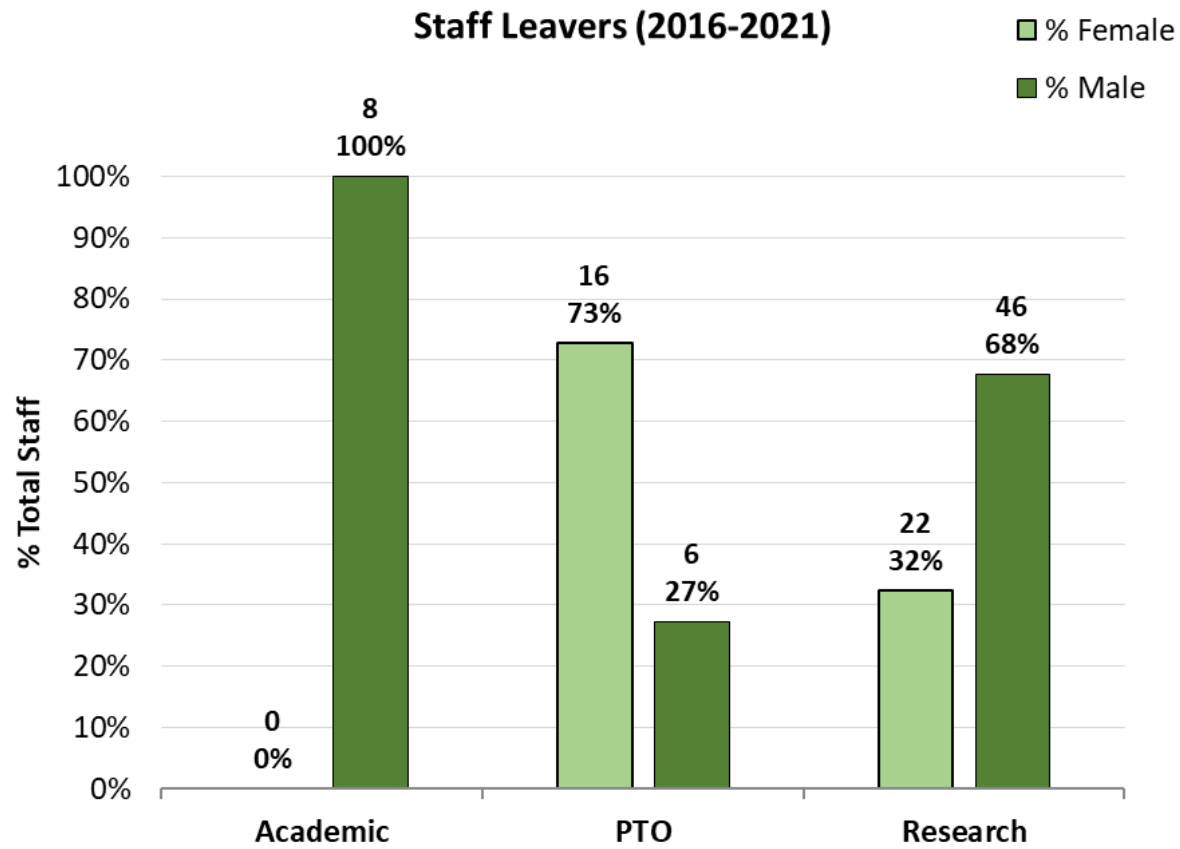


Figure 29. Staff leavers by role and gender, 2016-21.

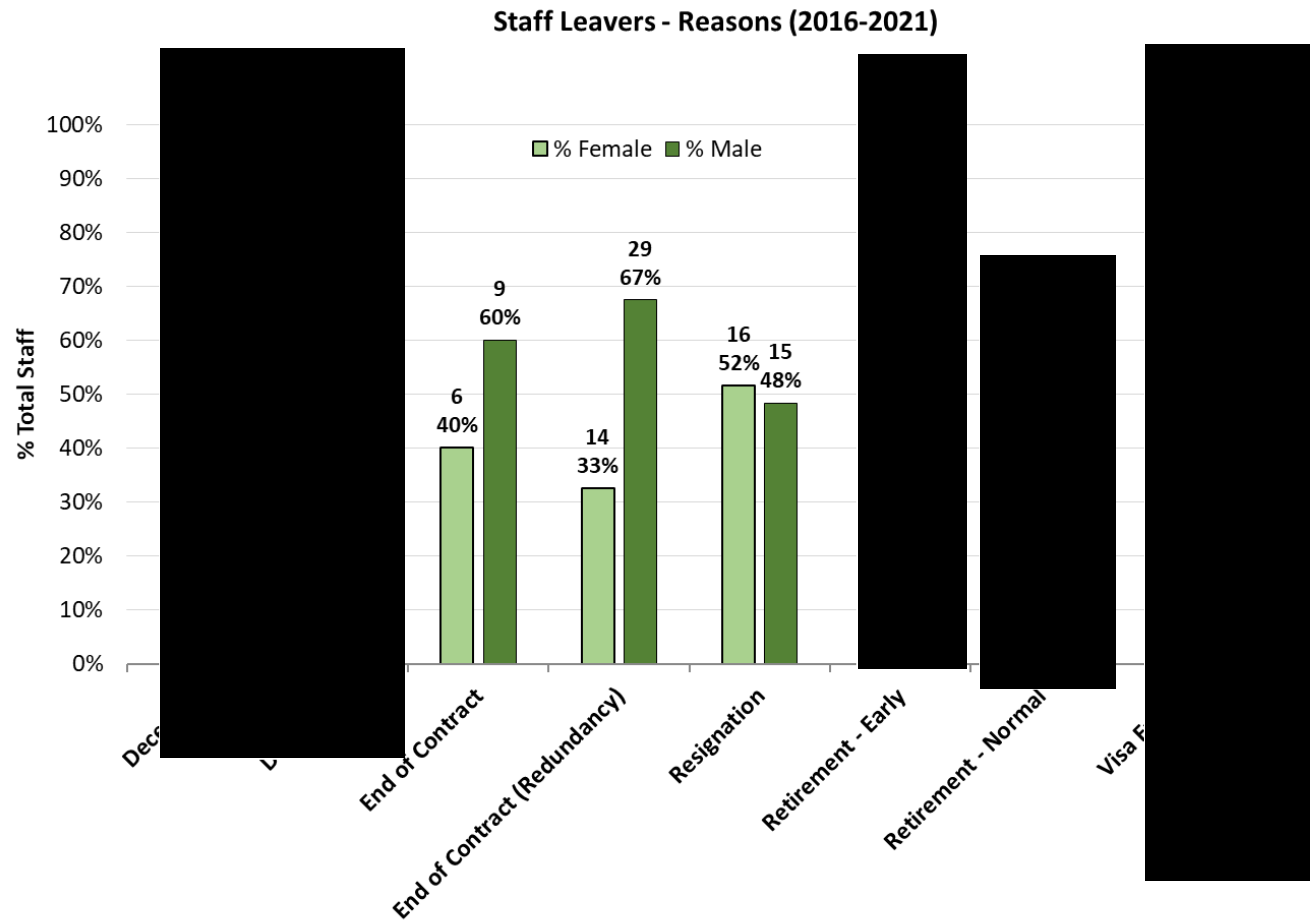


Figure 30. Staff leaver reasons by gender

	No. of staff on maternity leave			No. of staff returning			Return rate %		
	Academic	Research	PTO	Academic	Research	PTO	Academic	Research	PTO
2016-17	█	█	█	█	█	█	-	-	-
2017-18	█	█	█	█	█	█	-	-	100%
2018-19	█	█	█	█	█	█	-	100%	-
2019-20	█	█	█	█	█	█	100%	-	-
2020-21	█	█	█	█	█	█	-	100%	-

Figure 31. Maternity leave takers and return rates by role, 2016-21.

		Academic		Research		PTO		Total
		F	M	F	M	F	M	
2016/17	Dependant Leave					7		7
	Paternal Leave							0
	Paternity Leave						■	■
	Career Break							0
2017/18	Dependant Leave		■		■	■		6
	Paternal Leave					■		■
	Paternity Leave							0
	Career Break						■	■
2018/19	Dependant Leave			■		■	■	■
	Paternal Leave					■		■
	Paternity Leave		■					■
	Career Break							0
2019/20	Dependant Leave		■			■		■
	Paternal Leave					■		■
	Paternity Leave				■			■
	Career Break							0
2020/21	Dependant Leave							0
	Paternal Leave							0
	Paternity Leave				■		■	■
	Career Break							0
Total		■	■	■	■	17	5	29

Figure 32. Staff that availed of flexible working arrangements by gender and role, 2016-21.

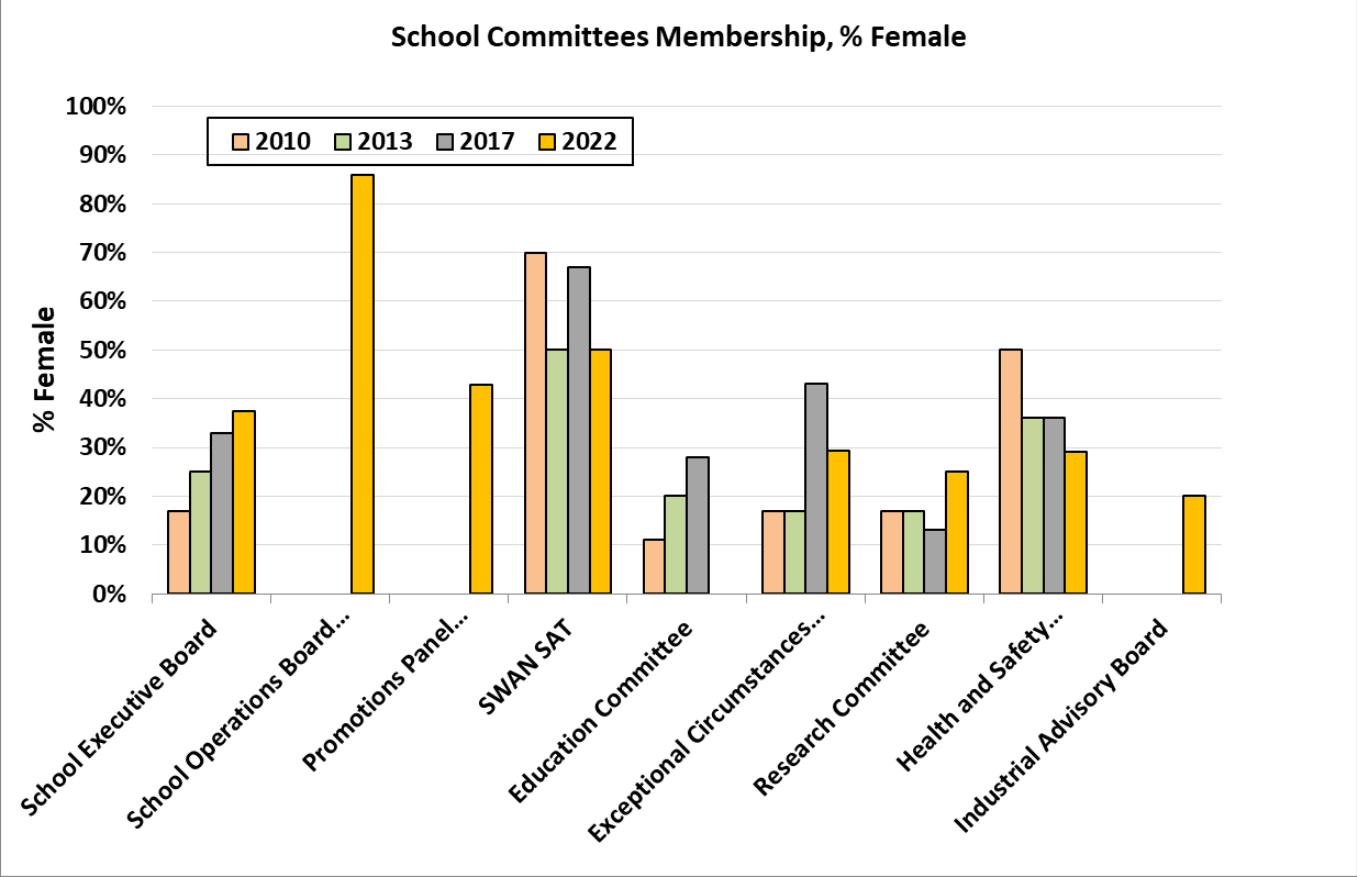


Figure 33. Gender composition of CCE School committees, 2010-2022

Appendix 3: Glossary

Glossary of abbreviations and acronyms used in the application

APR	Annual Progress Review
AS	Athena Swan
BAME	Black, Asian and minority ethnic
BSci	Bachelor of Science
CASE	Centre for Advanced Sustainable Energy
CCE	School of Chemistry and Chemical Engineering
CHE	Chemical Engineering
CHM	Chemistry
DE	Director of Education
DI	Director of Internationalisation
DKB	David Keir Building
DPGR	Director of Postgraduate Research
DR	Director of Research
ECR	Early Career Researcher
EDI	Equality, Diversity & Inclusion
EPS	Engineering & Physical Sciences
F	Female
FT	Full Time
HoS	Head of School
HR	Human Resources
IAB	Industrial Advisory Board
iRISE	QUB Peer Network for BAME and/or international staff
LGBT+	Lesbian, Gay, Bisexual, Transgender +
M	Male
MChem	Master of Chemistry
MEng	Master of Engineering
MS	Microsoft
MSci	Master of Science
NSS	National Student Survey
PDC	Postdoctoral Development Centre
PDR	Personal Development Review
PDRA	Postdoctoral Research Associate (Research Fellow)
PG	Postgraduate
PGR	Postgraduate Research
PGT	Postgraduate Taught
PRES	Postgraduate Research Experience Survey
PRISM	QUB LGBT+ Staff Network
PT	Part Time
PTES	Postgraduate Taught Experience Survey
PTO	Professional/Technical/Operational
Q(s)	Question(s)

QUB	Queen's University Belfast
QUILL	Queen's University Ionic Liquids Laboratory
R&E	Research & Enterprise
RAG	Red/Amber/Green
REF21	Research Excellence Framework 2021
SAT	Self-Assessment Team
SEB	School Executive Board
SL	Senior Lecturer
SOB	School Operations Board
STEM	Science, Technology, Engineering & Maths
UG	Undergraduate
WAM	Work Allocation Model