The University of Edinburgh

**Internal Periodic Review
School of Chemistry
Postgraduate Research provision**

12 & 13 March 2024

Contents

Executive summary

This report comprises the outcomes from the internal review of PGR provision in the School of Chemistry.

The review team found that the School has effective management of the quality of the student learning experience, academic standards, good practice and enhancement.

The report provides commendations on the School's provision, recommendations for enhancement that the School will be asked to report progress on to the Senate Quality Assurance Committee and suggestions on how to support developments.

Key Commendations

The review team commend the School and Graduate School for their strong leadership and clear direction of travel, the high-quality research environment and community, outstanding supervisory quality and the overall commitment of both academic and professional services staff to provide a positive and well-supported student experience which is evident in many ways across the School. Further commendations are included in the report.

The review team commend the School, and in particular Euan Brechin, on their approach to the review. The review team was impressed by the high-quality reflective report, the organisation of the review days, and the openness of the staff and students who participated.

Key recommendations

The top three recommendations identified by the review team for the **School** to prioritise are:

- **Equality, Diversity and Inclusion:** The review team **recommend** that the School build on the good work already undertaken to promote EDI across School activities and to widen access to postgraduate study in Chemistry to under-represented groups.
- **Student Induction and support for tutors and demonstrators:** The review team **recommend** that student induction activities be spread over a longer period to avoid overwhelming new students, that signposting to guidance and support takes place regularly and that the induction activities for tutors and demonstrators include information and discussion about how to teach and support UG students.
- **Physical space and working environment:** The review team **recommend** that the School ensures that all staff and students have access to a safe, high quality working environment that meets their needs, as far as the building will allow.

Recommendations for wider University Management team:

- **People and Money (P&M):** The review team heard about the profound and ongoing negative impact of P&M on the smooth running of the School. Numerous work arounds, inconsistencies on student and staff experience, including wellbeing and morale must be recognised and addressed as a matter of urgency. Such workarounds have potentially serious data protection implications.
- **Students' accommodation:** The review team heard extremely concerning reports regarding the cost and rental agreements of university PGR accommodation. The University has a responsibility to support and protect its students both in private and university accommodation.
- **Facilities at Kings' Buildings:**

- There is a sense of increased centralisation of university services and facilities, which disadvantages students and staff based at King's Buildings - specifically the lack of catering, sports facilities, and challenging travel outside of office hours.
- **University Student Systems:** The current systems such as EUCLID are more geared towards UGT/PGT Students and are not fully compatible for PGR needs. For example, the PGR annual review form on EUCLID is basic and there is no scope of recording confidential personal circumstances. A case management module within EUCLID will help record confidential data for specific students in one place – current modus operandi is through emails which are neither efficient nor secure. This has been lagging over several years and needs urgent change.

Commendations, recommendations and suggestions

Commendations
Key strengths and areas of positive practice for sharing more widely across the institution.

No	Commendation	Section in report
1	The review team **commend** new initiatives implemented to develop a collegiate and supportive research environment across the School.	1
2	The review team **commend** the School of Chemistry Management Team (CPRC), Director of the Graduate School (Euan Brechin), the former Administrator of the Graduate School (Gill Law) and the Head of Student Experience (Dr Jean O'Donoghue) for implementing a new management structure to support further development and the collegiality of this approach.	1
3	The review team **commend** the School for their strong strategic approach to Teaching and Learning.	1
4	The review team **commend** the School for their high standard of research supervision.	2.2
5	The review team **commend** the robustness of the progression and examination process.	2.2
6	The review team **commend** staff for the way in which the new Student Support Model has been adopted and developed in the School to the advantage of PGR students, with particular commendation to Jean O'Donoghue, Head of Student Experience for establishing and developing the service.	2.3
7	The review panel **commend** the Director of the Graduate School (Euan Brechin) and the Head of Student Experience (Jean O'Donoghue) for their commitment and their visibility to PGR students.	2.3
8	The review team **commend** the improved method of communication and information provision via a new SharePoint site for PGR students.	2.3
9	The review team **commend** the School's commitment to supporting student mental health.	2.3

10	The review team **commend** the development of a PhD Community Champions initiative, to support the sustainability of community building activities.	2.4
11	The review team **commend** the work undertaken by the Director of Teaching to improve Student Staff Liaison Committee processes, to strengthen student voice.	2.4
12	The review team **commend** the Graduate School for working with the PGR student committee to develop plans for their annual research conference.	2.4
13	The Review Panel **commend** the PGR Committee and ChemSoc PG rep Jasmin Güven in particular for their hard work in planning and delivering activities to develop the PGR research community.	2.4
14	The review team **commend** the School for improvements made to the collection of data about applicants, to inform EDI in PGR student recruitment.	2.5
15	The panel **commend** the School EDI Manager (Claire Hobday) for her work in developing a three-year programme of activities to reduce racial and ethnic inequalities in the chemical sciences (RSC 'Missing Elements' funding)	2.5
16	The review team **commend** the School for promoting and enabling PGR student involvement in Public Engagement and Outreach activities (including those supporting widening participation in HE)	2.5

Recommendations

Areas for development and enhancement – progress to be reported.

Priority	Recommendation	Section in report	Responsibility of
1	The top three recommendations identified by the review team for the School to prioritise were: **Equality, Diversity and Inclusion:** The review team **recommend** that the School build on the good work already undertaken to promote EDI across School activities and to widen access to postgraduate study in Chemistry to under-represented groups.	2.5	School and College
2	**Student Induction and support for tutors and demonstrators:** The review team **recommend** that student induction activities be spread over a longer period to avoid overwhelming new students, that signposting to guidance and support takes place	2.7	School

3	regularly and that the induction activities for tutors and demonstrators include information and discussion about how to teach and support UG students. **Physical space and working environment:** The review team **recommend** that School ensures that all staff and students have access to a safe, high quality working environment that meets their needs, as far as the building will allow.	2.8	School
4	**Teaching and Support** The review team **recommend** that the small number of MRes students are considered separately from the wider PGR community, to determine whether they have any specific unmet academic and/or support needs.	1	School
	The review team **recommend** greater integration of Careers Service support for PhD students through more meaningful communication, and improved signposting to Royal Society of Chemistry and other sources of careers information.	2.6	School and Careers Service
	The review team **recommend** that the induction activities for tutors and demonstrators are further developed to include information and discussion about how to teach and support UG students, and could be spread over a longer period. New demonstrators should receive 'on the job' support from more experienced demonstrators.	2.7	School
	The review team **recommend** reducing the frequency of assessed lab reports for UG students to free up PhD student demonstrators to take up other development opportunities.	2.2	School
5	**School Management and Strategy** The review team **recommend** that the School Senior Management team consider succession planning for the Director of Graduate School role, to ensure that the good work and new initiatives are sustainable.	1	School
	The review team recommend that the School carries out a review of the resourcing of IT Services and Technical Services.	2.7	School

6	**Systems and Processes**		
	The review team **recommend** that a Working Group be established to improve finance and administration issues for PGR students arising from the implementation of People and Money and to promote consistency of approaches across Research Groups where possible.	2.3	School and University (Finance & HR Processes and Systems Implementation Board)
	In relation to People and Money, the Review team **recommend** that the School works with the Finance and HR Processes and Systems Implementation Board and the University's Data Protection Officer to review processes and develop improvements.	2.7	School, Finance & HR Processes and Systems Implementation Board and University's Data Protection Officer
	The review team **recommend** that the Graduate School work with central University systems to continue to improve their EDI data collection to allow for monitoring of applicants to ensure that successful applicants reflect diversity. This could include improved data collection to ensure that students from Widening Participation backgrounds are represented in the PGR cohort.	2.5	School and College
	The review team **recommend** that the College raise the payment for external examiners.	2.2	College
	The review team **recommend** that a case management module within EUCLID be developed to support the needs of PGR students and their supervisors.	2.2	Student Systems/ IS (University)
7	**Estates and Facilities**		
	The review team **recommend** that the School consider how lab space might offer greater flexibility in future.	2.8	School
	The review team **recommend** increased monitoring of temperature and ventilation in labs and office spaces to ensure that all staff and students experience comfortable working conditions.	2.8	School
	The review team **recommend** that the facilities at King's Buildings are reviewed in	2.8	Estates & Planning & ACE (University)

	line with the student and staff population with a view to increasing choices and services.		
	The review team **recommend** that a review of accommodation for PGR students is carried out to ensure that the University support and protect its students both in private and university accommodation.	2.8	ACE (University)

Suggestions

For noting – progress reporting is not required.

No	Suggestion	Section in report
1	The review team **suggest** that the Graduate School Manager seeks feedback from current PhD students about which IAD courses are most useful and signposts to these courses when they become available for booking.	2.1
2	The review team **suggest** that PGR students have a formal "Health and Wellbeing" checkpoint introduced as part of their formal yearly reviews.	2.2
3	The review team **suggest** that the PhD Community Champions initiative is shared with other Schools as an example of best practice.	2.3
4	The review team **suggest** that the School keep the 'burden of representation' in mind when seeking student representation from minority groups.	2.4
5	The review team **suggest** the school give attention to the tension between student and researcher identities and consider how PGR students can be best supported to develop their researcher identity.	2.4
6	The review team **suggest** that some additional actions to promote diversity should include disseminating research opportunities through initiative such as Generation Research, based at York University, and the introduction of a diverse talent scholarship.	2.5
7	The review team **suggest** that a mentoring or buddy scheme could be developed for demonstrators, along with a prize or award for the best demonstrator, as a means to foster recognition of good teaching and support for UG students.	2.7
8	The review team **suggest** that tutor and demonstrator roles be equally open to all PhD students, and equally supported by all supervisors.	2.7
9	The review team **suggest** that the Working Group on Space consider allocating a social space for staff and PhD students only, to help them develop their identities as researchers.	2.8

Section A – Introduction

Scope of review

Range of provision considered by the review (see Appendix 1).

The Internal Periodic Review of The School of Chemistry in 2023/34 consisted of:

- The University's remit for internal review (see Appendix 2)

- The subject specific remit items for the review:

    o PGR Experience and Support
    o Research Community

- The Reflective Report and additional material provided in advance of the review

- The meeting of the review team including consideration of further material (see Appendix 3)

- The final report produced by the review team

- Action by the School and others to whom recommendations were remitted following the review

Review Team Members

Convenor Professor Gill Aitken Director Postgraduate Medical Education Edinburgh Medical School	**Internal** Professor Prashant Valluri Personal Chair in Fluid Dynamics and Director of Discipline School of Engineering
External Dr Steven Quinn School of Physics University of York	**External** Professor Aurora Cruz-Cabeza Department of Chemistry University of Durham
Administrator Lesley Kelly Academic Developer Institute for Academic Development **Shadowing** Dr Kathy Evans Centre for Genomic and Experimental Medicine MRC Institute of Genetics and Molecular Medicine	**Student** Simar Mann c/o Deanery of Biomedical Sciences

The School

The School of Chemistry is one of seven Schools within the College of Science and Engineering.

Physical location and summary of facilities

The School is based at the Joseph Black Building and the Christina Miller extension/ Building at the King's Buildings Campus.

Date of previous review

5-6 October 2017

Reflective Report

The report was prepared by Euan Brechin (Director of the Graduate School), Jean O'Donoghue (Head of Student Experience) and Gill Law (former Graduate School Administrator)

The report was prepared in consultation with the academic Graduate School Committee, the student Graduate School Committee, Chemistry Planning and Resources Committee (school senior leadership), Director of Quality Assurance and the School Widening Participation and Outreach Officer.

Section B – Main report

1   Strategic overview

- The Graduate School within the School of Chemistry consists of around 200 PhD students, a small number of students who are part of Centres for Doctoral Training (CDT) and a small number of students studying for a MSc by research. Students are based within EaStCHEM Research School, which combines the research activities of the Universities of Edinburgh and St Andrews. EaStCHEM is recognised for excellence in both core and interdisciplinary chemistry. PGR students are based across 40 active research groups, each led by an Academic member of staff.

- The School has recently appointed a new Head of School and a new Director of the Graduate School, who alongside other senior members of staff demonstrate strong, effective leadership and clear sense of direction of travel. The School would like to expand their PGR provision as far as space allows, the aim being that all research active staff have the opportunity to recruit one new PhD student every year (roughly 50 new students per year).

- Throughout the discussions it was apparent that staff across the School have created a collegiate and supportive environment, while acknowledging that they are still in a covid recovery period. New initiatives have contributed to improved student support and research community for postgraduate research students. The review team **commend** these new initiatives.

- The review team **commend** the Director of the Graduate School and Head of Student Experience for implementing a new professional services management structure, comprising a FT Manager and PT administrator, allowing scope for the new Manager to become more involved in strategic planning and development of the Graduate School.

- The review team **commend** the School for their strong strategic approach to Teaching and Learning. Staff acknowledge that from early 2020, the focus has been on developing and facilitating online learning and then covid recovery. Only now has there been the chance to return to more strategic, less 'crisis' activities and planning, with more capacity to think about how to support and develop PGR students better. There is recognition that UG students are currently being over-assessed, with weekly assessed lab reports. Reducing the frequency of these reports would free up PhD student demonstrators to take up other development opportunities.

- The School acknowledge that there are some tensions between Research Group PIs and the Chemistry Teaching Organisation with postgrads being 'pulled' between research and teaching.

- The review team **recommend** that the small number of MRes students are considered separately from the wider PGR community, to determine whether they have any specific unmet academic and/or support needs.

- The review team **recommend** that the School Senior Management team consider succession planning for the Director of Graduate School role, to ensure that the good work and new initiatives are sustainable.

2 Enhancing the student experience

2.1 The approach to enhancing Learning and Teaching

- EaStCHEM received outstanding results in the Research Excellence Framework (REF2021) and offers high-quality learning and training experiences to maximise this research expertise. With most students enrolled on three-year (+1 year submission) programmes, the Graduate School is highly committed to the training, development and support of its students. Induction activities, training opportunities and transferrable skills courses are regularly reviewed to ensure that students are equipped with the skills needed for research and for their future careers.

- PhD students are regularly reminded about the additional training and support offered through the Institute for Academic Development (IAD). The review team heard that some students find this additional offer overwhelming. The review team **suggest** that the Graduate School Manager seeks feedback from current PhD students about which IAD courses are most useful and signpost to these courses when they become available for booking.

- For students enrolled in CDT/DTP Programmes, responsibility for teaching and learning is devolved to the experts in those teams. Doctoral Training Partnerships provide bespoke training programmes, that, in addition to the research-led study, include intellectual, experiential and transferrable skills training.

- A small number of students are completing PhDs through collaborative partnership programmes with other Institutions. As part of the IPR process, all of these partners were contacted for comments. None were received and the review team assume that there are no difficulties with these partnership arrangements.

- The review team heard from students that being part of a Research Community enhances their learning and their overall PGR experience. Staff and students at the Graduate School and wider School have put an immense amount of effort into developing, improving and re-invigorating the Research Community following the pandemic (see Remit item 2, Listening to the student voice Section 2.4)

2.2 Assessment and Feedback

- PhD supervision: The review team **commend** the School for the high standard of research supervision. PGR supervision was highly valued by students, with some attracted to Edinburgh by the quality of supervisory relationships. However, there is a recognition that the supervisory burden is not shared equally amongst all staff and there is a need for the School to review the associated workload allocation in a way that best fits their requirements.

- The review team were satisfied that a strong system is in place to ensure a high quality, fair and supportive supervisory relationship for all PhD students. New supervisors are allocated a mentor (an experienced supervisor). Supervisors are required to complete and then refresh their Fundamentals of Supervision training every 5 years. All members of the Graduate School Committee provide support and facilitate the sharing of best practice among Supervisors. The School feels that this works well. Very low (almost zero) withdrawal rates confirm that supervision practices are working well.

- The review team were satisfied with the progress monitoring arrangements put in place. Most supervisors meet weekly with their students, either on a one-to-one basis or as part of the wider research team. Annual reviews requiring the submission of a training record and an in-person oral examination monitor student progress and offer students the opportunity to raise any issues or challenges. Supervisors are also encouraged to provide continuous feedback throughout the year in a variety of ways. The review team **suggest** that PGR students have a formal 'Health and Wellbeing' checkpoint introduced as part of their formal yearly reviews.

- In relation to managing PGR Annual Reviews, the review team heard that current systems such as EUCLID are more geared towards UGT/PGT Students and are not fully compatible for PGR needs. The PGR annual review form on EUCLID is basic and there is no scope of recording confidential personal circumstances. The review team **recommend** that a case management module within EUCLID developed to help record confidential data for specific students in one place – current modus operandi is through emails which are neither efficient nor secure. This has been lagging over several years and needs urgent change.

- The review team were satisfied with the arrangements put in place to complete PhD vivas. New and less experienced internal examiners are supported by a non-examining Chair. Clear processes are in place so all staff and students are aware of the requirements for progression and assessment. The review team **commend** the robustness of the supervision and examination process.

- To facilitate recruitment of external examiners, the review team **recommend** that the College consider raising the payment for external examiners.

- In relation to the point in section 1 about over-assessment of UG students, the review team **recommend** reducing the frequency of assessed lab reports to free up PhD student Demonstrators to take up other development opportunities.

2.3   Supporting students in their learning

- PGR Experience and Support was discussed in detail as Remit Item 1. The Graduate School Committee have overall responsibility for PGR Experience and Support, led by Euan Brechin. The review team **commend** the way in which the new Student Support Model has been adopted and developed in the School to the advantage of PGR students, with particular commendation to Jean O'Donoghue, Head of Student Experience for establishing and developing the service.

- The implementation of the new student support model has worked well for PGR students and alleviated the pastoral care workload for academic staff. This should be recognised as an exemplar more widely within the institution. The normalisation of student support within the school by ensuring student support staff are visible to students has been outstanding. Jean provides one to one support to PGR students (who are not allocated Student Advisers under the new model) and operates an open-door policy so that students can speak to a member of the student support team at any time. She has also developed good relationships with research supervisors so that she can advise on any challenges, non-attendance issues or communication difficulties between student and supervisor. Supervisors will refer students to the new student support team for wellbeing support and where

appropriate, students will then be referred to the Wellbeing Adviser or Student Counselling Services.

- Both Euan and Jean drop in to weekly PGR coffee mornings and other activities. The review panel **commend** the Head of the Graduate School (Euan Brechin) and the Head of Student Experience (Jean O'Donoghue) for their commitment and their visibility to PGR students.

- In consultation with students, the previous Graduate School Administrator developed a new intranet/ SharePoint site containing all the up-to-date information needed by PGR students. The review team **commend** this improved method of communication and information provision and encourages wider publicising of the resource and dedicated staff time to maintain and update the materials available.

- The review team **recommend** that a Working Group be established to improve finance and administration issues for PGR students arising from the implementation of People and Money and to promote consistency of approaches across Research Groups where possible.

- The Head of Student Experience has developed links with the University's Director of Student Wellbeing. All student support staff plus some academic staff at the School are participating in 'Safe Talk'/ ASIST training (Applied Suicide Intervention Skills Training). The review team **commend** the School's commitment to supporting student mental health.

2.4. Listening and responding to the Student Voice

- Feedback from students following their return to campus after covid suggested a lack of sense of community among PGR students, with the lack of opportunities to meet and interact with other students being a key factor in this. The review team discussed Research Community at length with the Director of the Graduate School and the Head of Student Experience, under Remit Item 2.

- A PGR Committee of students has been established to liaise with the Graduate School Committee/ academic staff on all matters affecting the PGR cohort. The review team were impressed with the range of student-led activities and initiatives underway to develop and support research community in the Graduate School. Social activities have included welcome events, regular coffee mornings and social events that do not always involve alcohol. In terms of research-related events, the PGR Committee have launched a PhD Seminar Series, to offer PhD students the opportunity to present their research in an informal setting and for UG and PGT students to learn about the research being undertaken across the School. The Review Panel **commend** the PGR Committee and in particular, ChemSoc PG rep Jasmin Güven.

- The Graduate School holds an annual Joseph Black Conference to which all PGR students and staff are invited. Final year PhD students present their research and 2nd year students present posters of their on-going research. The PGR Committee will be more involved in the running of the conference, including selecting the plenary speaker. The review panel **commend** the School for this development.

- The Review Team heard that PhD students enjoy participating in the annual retreats at Firbush, Loch Tay. These are held for each Research section but the format can vary – some incorporate work and others are purely social (team building).

- The review team heard several references to the liminality of PGR student identity as fluctuating between those of student and researcher. The review team **suggest** the school give attention to this tension and consider how PGR students can be best supported to develop their researcher identity. This may include a change in language from 'PGR students' to 'researchers'.

- The review team heard that PhD community champions have been appointed to develop resources for future volunteers to promote the sustainability of programmes and activities. The review team **commend** this initiative and **suggest** that it is shared with other Schools as an example of best practice.

- The review team gleaned a strong sense from students that the School listens to them and acts on their views. For example, students were involved in the development of a new SharePoint site for PhD students and the site was designed to meet their needs. Students reported that feedback is usually acted on. For example, following feedback received through the anonymous comments box, security issues were resolved.

- Student Staff Liaison Committees (SSLCs): The review team heard from Chris Mowat (Director of Teaching) that he has enhanced the SSLCs process, holding pre-meetings in smaller groups and encouraging Class Reps to hold smaller focus groups in advance of reporting back to SSLCs. The review team **commend** this work.

- In terms of EDI and representation, there was a brief discussion about the burden of representation sometimes experienced by minority groups. The review team **suggest** that the School keep this is mind when seeking student representation.

- The School have analysed and responded to themes identified in the PRES data and comments, including finding information about wellbeing support and impact of University-wide systems (People and Money)

2.5   Accessibility, Inclusivity and Widening Participation

- The School highlighted the various ways they advertise PhD opportunities to attract applicants from wide range of backgrounds. The review team **commend** the School for improvements made to the collection of data about applicants, to inform EDI in recruitment and **recommend** that the Graduate School continue to improve their EDI data collection to allow for monitoring of applicants to ensure that successful applicants reflect diversity. This could include improved data collection to ensure that students from Widening Participation backgrounds are represented in the PGR cohort. Data from International Students and UK students should be presented separately. We recognise the challenge of obtaining robust information on PGR students from existing University systems, such as BI and recommend the University reviews this.

- The School has received 'Missing Elements' funding from the Royal Society of Chemistry to develop an action plan to increase race and ethnicity diversity. The panel **commend** the School EDI Manager (Claire Hobday) for her work in developing

a three-year programme of activities to reduce racial and ethnic inequalities in the chemical sciences. These activities include a summer student internship, guest speakers from BME groups to address issues around representation, providing Race Equity training from Diversity Scotland for students preparing to commence work placements in diverse workplaces and targeted advertising of PhD opportunities.

- The review team **suggest** that some additional actions to promote diversity should include disseminating research opportunities through initiatives such as Generation Research, based at York University and the introduction of a diverse talent scholarship.

- The School reported that all PGR programmes fully support the University's Accessible and Inclusive Learning policy. Adjustments are made to students' research programmes where required. Students are encouraged to seek help from the Student Disability and Learning Support Service where appropriate.

- Induction training for tutors and demonstrators includes consideration of 'Who are our students', what their lab experience might be and what issues to expect in relation to diverse UG student groups.

- The review team heard that Decolonising the Curriculum is regularly considered. Guest speakers have been invited to give seminars on this topic, and guest speakers from BME backgrounds have been invited to give scientific lectures. Representation is taken very seriously. These lectures are open to all staff and students.

- The School reported that there are currently six active Public Engagement Scholars, who have accessed PE funding to extend their PhD by three months to allow them to participate in PE and Outreach activities. Students are supported by the School's Widening Participation and Outreach Officer to plan, develop and deliver outreach activities that may inspire young people to pursue careers in Chemistry. The review team **commend** the School for these activities.

2.6 Development of Employability and Graduate Attributes

- The Review team heard from the Careers Service Consultant for the School of Chemistry, who has a regular presence at the School and offers a weekly drop-in session. It was acknowledged that there could be greater integration of Careers Service support for PhD students through more meaningful communication. The Review Team **recommend** that this is taken forward by the Careers Service, working in partnership with the School.

- To further develop Careers Support provision for PGR students the Review team **recommend** improved signposting to Royal Society of Chemistry careers information and **suggest** that external speakers be invited in to talk to students about careers outwith academia.

2.7 Supporting and developing staff

- Most PhD students at the School of Chemistry are employed as demonstrators and some as tutors. School Management were clear that they depend on PhD students to teach undergraduates. This has become more significant as UG student numbers have risen. The member of staff responsible for the oversight of the teaching labs gave a comprehensive account of the initial training provided to tutors and

demonstrators. A general induction session includes an introduction to programmes and students, advice about HR issues and information on good demonstrating practice from one of the Senior Demonstrators. Specific guidance relating to each lab comes later from each Teaching Lab organiser. There is a general expectation that demonstrators will learn 'on the job'.

- Demonstrators are paid for attending training and induction activities and are paid for marking, though students noted that in some cases payment is not commensurate with the number of hours marking takes. Students reported that they would like more guidance about marking and would like guidance to be easily accessible from one place, perhaps in the form of a handbook. These resources might also include exemplars of high-quality lab reports. There are some inconsistencies across labs and it is sometimes difficult to know the standards expected of UG students, especially for those PhD students who completed their UG education at a different institution.

- The review team **recommend** that induction activities for tutors and demonstrators are further developed to include information and discussion about how to teach and support UG students, as well as guidance about marking. Induction activities could be spread over a longer period of time to avoid overwhelming new students. Optional training such as Mental Health Awareness training would help tutors and demonstrators to feel more confident about supporting UG students with their learning and with pastoral issues (while acknowledging that all student support issues can be referred to the School wide Student Support team).

- The review team **suggest** that a mentoring or buddy scheme could be developed for demonstrators, along with a prize or award for the best demonstrator, as a means to foster recognition of good and compassionate teaching.

- The School has a clear focus on the Policy for the Recruitment, Support and Development of Tutors and Demonstrators and has clear training programme in place. However, PhD students currently employed as tutors and demonstrators expressed their needs for further pedagogical training in how to teach and how to give feedback, in addition to the practical training and support currently provided. This could include exemplar scripts/exemplar calculations being made available for each lab. PhD students were aware of the training opportunities offered by the Institute for Academic Development (IntroApp/ HEA Fellowship) but expressed a preference for subject specific training about how to teach and support students in Chemistry.

- The review team heard about some inconsistencies in the number of hours allocated to tutors and demonstrators (see earlier comment about the tensions between research and teaching) The review team suggest that these roles be equally open to all, and equally supported by all supervisors. Demonstrators should be offered the flexibility to decline hours, or take more, up to the maximum permitted.

- The review team heard about the lack of career progression opportunities 'in role' for professional support staff. This means that high performing, valued members of staff tend to get poached by other Schools who can offer a promoted post. The review team **recommend** that University Human Resources consider progression and support for Professional Services staff.

- Th review team noted that technicians and IT staff at the School are in great demand. The complexity of labs and experiments has increased, as has the number of

students. IT support staff and technicians should be properly resourced so they can support staff and students effectively. The review team acknowledge the importance of technical staff and **recommend** that the School carries out a review of the resourcing of IT Services and Technical Services with a view to funding additional posts.

- Finance and HR systems that are fit for purpose are essential to supporting staff in their day-to-day activities and development. The review team heard that various 'work arounds' have been developed to compensate for the poor functionality of the People and Money system, especially in relation to Finance. These workarounds include Excel spreadsheets and have potential Data Protection implications. The Review team **recommend** that the School works with the Finance and HR Processes and Systems Implementation Board and the University's Data Protection Officer to review processes and develop improvements.

2.8 Learning environment (physical and virtual)

- The School has a Working Group looking at Space and how it is used. The Group is working with colleagues in Estates and at College level to ensure the space is fit for modern chemistry. The review team heard that students are attracted to Edinburgh by older building and the sense of history across the School. There is a sense of SOC being a 'boutique' school in terms of being small (in relation to some other Schools at UoE), self-contained and specialised.

Social Space

- The new social space in the old museum area provides an opportunity for UG students, PGR students and staff to mix. This has been much appreciated but does get very busy at peak times. PGR students expressed a desire for a dedicated space for postgraduate students and staff, which would help with building research community and would help students to develop their identities as researchers. The review team **suggest** that the Working Group consider this request.

Office space

- The School indicated that it is not possible to grow the number of academic staff due to lack of office space. The review team heard that students are very supportive of the Student Experience and Support team being allocated an alternative, larger space that would help the team become even more visible and accessible to students. The review team **recommend** that this is considered by the Working Group.

- The review team heard that some students are affected by uncomfortable working conditions. The review team **recommend** that temperature and ventilation is monitored, particularly in the Computational Chemistry PhD space (old library).

Lab space

- Staff and students recognise the challenges caused by RAAC. Students felt that communication from Senior Management could have been better but appreciate that the School has done their best to alleviate the challenges. However, there has been an impact on student research time due to moving lab activities. The students affected may need more time and funding to complete research and should be supported in such requests.

- Students expressed a wish that lab space could be more flexible (currently 'compartmentalised'). This was echoed by School Management – lab space needs to be more flexible to allow Research Groups to expand and contract. The review team **recommend** that the Working Group consider how lab space might offer greater flexibility in future.

  Access to materials

- The review team heard that students experience difficulties in accessing and sourcing chemicals needed for lab work due to a complex ordering system (People and Money related). The process of obtaining chemicals and minor consumables from stores should be streamlined. Reagents/consumables/chemicals should be made available at the point at which they are required.

- The review team heard that students very much appreciated the services and support of Stuart Johnstone, the School's very own glassblower. To quote one student: 'I go to him with a dream and he makes it a reality'.

  Other facilities

- Both students and staff were disappointed about the lack of facilities at King's Buildings and expressed their interest in sports facilities including a gym, more café options, healthier food choices and a bar. These facilities would promote the health and wellbeing of those based at KB and offer more opportunities for community building. (Post review note – the Mayfield Bar in King's Buildings House has now re-opened, and badminton courts are available). Bus travel from King's Building in the evenings is less than ideal. The review team **recommend** that facilities at King's Buildings are reviewed in line with the student and staff population with a view to increasing choices and services.

  Accommodation for PGR students

- The review team heard extremely concerning reports regarding the cost and rental agreements of university PGR accommodation. The University has a responsibility to support and protect its students both in private and university accommodation. The review team **recommend** that a review of accommodation for PGR students is carried out to ensure that the University support and protect its students both in private and university accommodation.

3 Assurance and enhancement of provision

- The School has appropriate approaches to setting, maintaining and reviewing academic standards across postgraduate research provision. Standards are continuously reviewed through annual monitoring via Annual Programme Reviews and the School's Annual Quality Report. In addition, standards are also maintained and reviewed through effective admissions procedures, internal committee structures, moderation of student assessment, external examiner reporting and alignment with the SCQF framework and QAA subject benchmarking. Overall, the setup of School committees and exam boards is appropriate for maintaining academic standards.

Appendices

Appendix 1: Range of provision considered by the review

List of programmes and courses covered by the review

MScR Chemistry
PhD in Chemistry 3 years Full-time
Critical Resource Catalysis; https://www.criticat.co.uk/
Optical Medical Imaging with Healthcare Innovation and Entrepreneurship; https://www.optima-cdt.ac.uk/
PhD in Chemistry (with placement)
Soft Matter for Formulation and Industrial Innovation (UoE lead with Durham and Leeds); https://soficdt.webspace.durham.ac.uk/
Transformative Research with the Rosalind Franklin Institute (UoE Lead); https://www.rfi.ac.uk/careers-study/phd-studentships/programme-overview/

Appendix 2 – University remit

The University remit provides consistent coverage of key elements across all of the University's internal reviews (undergraduate and postgraduate).

It covers all credit bearing provision within the scope of the review, including:
- Provision delivered in collaboration with others
- Transnational education
- Work-based provision and placements
- Online and distance learning
- Continuing Professional Development (CPD)
- Postgraduate Professional Development (PPD)
- Provision which provides only small volumes of credit
- Joint/Dual Degrees
- Massive Open Online Courses MOOCs (even if non-credit bearing)

1. **Strategic overview**
   The strategic approach to:

   - The management and resourcing of learning and teaching experience,
   - The forward direction and the structures in place to support this.
   - Developing business cases for new programmes and courses,
   - Managing and reviewing its portfolio,
   - Closing courses and programmes.

2. **Enhancing the Student Experience**
   The approach to and effectiveness of:

   - Supporting students in their learning
   - Listening to and responding to the Student Voice
   - Learning and Teaching
   - Assessment and Feedback
   - Accessibility, Inclusivity and Widening Participation
   - Learning environment (physical and virtual)

- Development of Employability and Graduate Attributes
- Supporting and developing staff

3. **Assurance and Enhancement of provision**
   The approach to and effectiveness of maintaining and enhancing academic standards and quality of provision in alignment with the University Quality Framework:

   - Admissions and Recruitment
   - Assessment, Progression and Achievement
   - Programme and Course approval
   - Annual Monitoring, Review and Reporting
   - Operation of Boards of Studies, Exam Boards, Special Circumstances
   - External Examining, themes and actions taken
   - Alignment with SCQF (Scottish Credit and Qualifications Framework) level, relevant benchmark statements, UK Quality Code
   - Accreditation and Collaborative activity and relationship with Professional/Accrediting bodies (if applicable)

Appendix 3 Additional information considered by review team

Prior to the review visit:

- Reflective Report
- Programme Handbooks
- PRES analysis and summary
- Programme Handbooks
- SSLC minutes
- Statistical reports
- Quality reports 2019-2023

Appendix 4 Number of students

INTERNAL PERIODIC REVIEW
ENTRANTS FOR SELECTED PROGRAMMES

Analytics Insights Modelling

The number of students who enter on to the selected programmes each year. If the number of entrant is 0, it means that there are applications for the programme, but there is no entrant.

Programme Name	2023/4 Entrants	2023/4 Students	2022/3 Entrants	2022/3 Students	2021/2 Entrants	2021/2 Students	2020/1 Entrants	2020/1 Students	2019/20 Entrants	2019/20 Students
Chemistry (MSc by Research)	3	3	5	5	2	2	3	3	4	4
Chemistry (PhD) (Full-time)	46	46	50	47	43	43	43	43	40	40
Optical Medical Imaging with Healthcare Innovation and Entrepreneurship (UoE lead - jointly awarded with Strathclyde) (PhD with Integrated Study) - 4 Years (Full-time)									0	
Soft Matter for Formulation and Industrial Innovation (UoE lead with Durham and Leeds) (Chemistry) (PhD with Integrated Study) - 4 Years (Full-Time)					3		1			
Transformative Research with the Rosalind Franklin Institute (UoE Lead) (PhD) - 4 Years (Full-time)	10	10	11	11						