Keele University's Annual Statement on Research Integrity 2021-22

Introduction

Research integrity is one of the strategic pillars of Keele University's overarching Research Strategy. Our commitment is to the highest standards of research integrity through maintaining a research environment that supports and develops our researchers, with clear processes for responding to allegations of research misconduct.

The Named Person responsible for research integrity and reproducibility at Keele University is the Pro-Vice Chancellor for Research and Innovation who is the first point of contact for further information or support about matters of research integrity and reproducibility. Alternatively, the Academic Lead for Research Integrity and Improvement at Keele University and the Director of Research Strategy Delivery (Research Integrity administrative lead) can be contacted. This Research Integrity Group can be contacted through the dedicated email account: research.integrity@keele.ac.uk.

Statement

Keele University is committed to ensuring the highest standards of research integrity in all aspects of its research activities and expects its researchers to maintain a similar commitment. Keele University welcomes the UUK Concordat to Support Research Integrity and supports the five commitments contained within the Concordat.

Quality Management System

The University recognises the need to ensure standards and legislative requirements are met in a consistent and robust manner. The University has a Quality Management System in place to manage compliance with the standards governing our research activity. This Quality Management System comprises three main aspects:
(1) the University's **policies and procedures** to define the standards and outline processes by which those standards are applied;
(2) the **training and development** of research staff, to support them in applying and promoting these standards in their research; and
(3) processes and mechanisms by which the University maintains **oversight** of the ongoing application of these standards and investigates concerns about research integrity.

The five key elements of research integrity (honesty, rigour, transparency and open communication, care and respect, and accountability) outlined in the Concordat are reflected in the University's Quality Management System.

Policies and Procedures

The Keele University Research Integrity Policy is part of the overarching Quality Management System. The University has a Code of Good Research Practice and a Code of Practice for Student Academic Misconduct which outline the University's expectations of the behaviour of all staff and students engaged in research. These documents also include the definition of misconduct in research. The code reflects a number of other policies including:

- Data protection
- Management of conflicts of interest
- UK Policy Framework for Health and Social Care Research
- Research data management
- Research ethics

Where an area of work represents a significant risk or there is otherwise a requirement for it, the University will specifically describe processes required to meet standards or legislative requirements through standard operating procedures (SOPs). SOPs are subject to periodic review to reflect changes in legislation, regulatory and funder requirements as well as evolving research practice. Currently, the University has SOPs in the following areas:

- Clinical research, particularly Clinical Trials of Investigational Medicinal Products
- Scientific research involving the use of animals
- Research involving human participants, their data or bodily material
- Open Access to research publications
- Ethics Committee review of research

These policies are reviewed on a regular basis to ensure they meet the requirements of our evolving research portfolio and can be found on the University's Research Integrity webpages and Policy Zone. Communications on research ethics and integrity processes are made to staff and students through the University's internal communications channels. Research integrity is a standing item on the University and Faculty Research Committees.

In addition to this, Faculties are encouraged to develop local processes to promote a culture of research integrity; these may include:

- Peer review processes
- Symposium/Seminar series and academic discussion
- Engagement with research transparency, including (but not limited to):
  - Pre-registration of study protocols
  - Open access to research data
  - Open access to research materials
  - Open access to research software / analysis scripts
- Ethics Committee review of research

Keele is committed to the principle that researchers should publish their results freely, ensuring their work is available to other researchers and the public. The University proactively publishes publicly-funded research outputs through its research repository, and actively manages situations where restrictions exist on publication accessibility. Currently, around 85% of the content on the repository is freely available to all through open access publication.

The University also has a repository for research data underpinning published research made available for open access. It builds on and greatly facilitates existing good practice within the University as highlighted by key stakeholders in recent publications.

Keele is committed to supporting transparency in research and to developing approaches to improve the quality of the research we produce. As part of this, Keele has developed a Statement on Transparency in Research which sets out key expectations of Keele researchers to engage with Open Science and Reproducibility best-practice. Such best practice includes Open Data (public sharing of data underpinning our publications), Open Materials (public sharing of research methods / analysis scripts / software) underpinning our research, as well as engaging in pre-registration of study protocols and analysis plans, where appropriate.

Keele is also committed to recognising and rewarding engagement with Open Science and Reproducibility best practices in its promotion and hiring decisions. Our promotions criteria encourage candidates to comment on their engagement with Open Science and Reproducibility best-practice in their applications. Keele has also developed a Statement on Responsible Research Assessment to guide hiring and promotion committees in the responsible use of bibliometric data. Keele is also a signatory of the San Francisco Declaration on Research Assessment (DORA) which emphasises the assessment of research on its own merits rather than relying on bibliometric data (such as journal impact factor).

Training and Development

The University recognises that the ultimate responsibility for personal and professional development of researchers lies with the individual and provides a supportive environment with open access to opportunities for training or personal

reflection. The University benefits from membership of Vitae and the UK Council for Graduate Education (UKGCE) and benchmarks development opportunities against the Researcher Development Framework in order to develop more effective and successful researchers with a specific emphasis on research integrity.

The University seeks to ensure that all researchers are aware of and understand the policies and principles relating to ethics and integrity. The University supports researchers through the provision of learning and development opportunities to ensure compliance with policy in mandating training in certain key areas.

The training programme provides opportunities for recommended training in areas supporting research integrity such as:

- Good Clinical Practice as legislated by the Medicines for Human Use (Clinical Trials) Regulations
- Data Protection Act and Freedom of Information Requests
- Discipline specific research methodology and ethical considerations
- Publications and presentations
- Intellectual Property management including conflicts of interest and transparency
- Animals (Scientific Procedures) Act
- Human Tissue Act
- Plagiarism and Research Misconduct
- Information Security

The University recognises the need for a flexible and dynamic training package to respond to changes in research focus in the staff and student populations, as well as external forces such as changes in legislation or funder requirements.

The University's research integrity training needs are held under review by the Research Committee.

The Research Governance Toolkit Research Integrity webpage has been updated. We have also created an internal hub for academic colleagues with pages dedicated to Research Integrity.

Research integrity training is available to postgraduate research students. As part of the PGR Summer School an introductory session on, integrity, research governance and ethics explains the differences between the three and when each is relevant along with real-time examples and support for students to think about their own projects.

An Academic Lead for Research Integrity and Improvement at Keele along with Faculty Research Integrity Champions for each Faculty have been appointed. These individuals continue to work with the Pro-Vice Chancellor for Research and Innovation and the Director for Research Strategy Delivery to foster a stronger culture of research integrity and reproducibility at Keele. The Academic Lead sits on University Research Committee, and the Academic Lead and Faculty Research Integrity Champions are members of the Research Leaders Network at Keele and their respective Faculty Research Committees.

In the 2021-22 academic year, the team have provided various advances. The focus has primarily been on enhancing engagement with open research practices informed by a 3-year Open Research Action Plan, developed last year. Main achievements from this year's actions associated with the Open Research Action Plan include:
- We have developed researcher training around engaging with open & reproducible research. This training was trialled at the Summer Research School (primarily comprising PGR students), but will be adapted into an online training program suitable for researchers at all levels across the University.
- A nation-wide scoping exercise was completed of extant specialised training resources for open research. This was conducted as part of Keele's inclusion in the £5million Research England Development Fund project with the UK Reproducibility Network.
- We were able to support four Open Research Project grants (two from Humanities & Social Sciences, and two from Medicine & Health Sciences). This funding was designed to fund projects to stimulate engagement with open research across Keele University. Funded projects included:
  - A project investigating best practice for open research data sharing in cross-disciplinary big data/social science projects.

- o A project to support the production of an open-access digital resource as part of a larger digital humanities project.
- o A project piloting the implementation of electronic laboratory notebooks to support open and reproducible method of recording laboratory activities and resources.
- o A project to produce a range of open-source resources in the field of animal thrombosis.
- We ran an open competition for Keele's inaugural "Open Research Staff Prize", which was designed to recognise and reward individuals who have made—or who demonstrate clear plans to make—significant contributions to the principles of open research in their work. In June the winner from the School of Chemical and Physical Sciences was announced.
- The team have implemented researcher-prompts within the Symplectic system to encourage and track engagement with open data (where relevant) in research publications.
- Work has commenced on encouraging the embedding of open research activity within funding applications processed through RIE.
- Work has commenced in how to embed recommendations for open research criteria to be included in academic recruitment materials to reward (via recruitment) engagement in best practices in research.

Keele continues to make significant contributions to the [£5million grant from Research England's Development Fund](#). The five-year project will develop and evaluate high-quality training in open research, and to develop and evaluate institutional best-practice around supporting engagement with open research and reproducibility issues. The institutional lead for research integrity and improvement sits on the management team of this grant and led one of the three workstreams this year relating to training. The aims of the workstream is to enable UK institutions to improve the skills of their researchers in open research practices via consistent, high-quality and harmonised training, and sharing a UKRN collection of training material. We will do this by:

- implementing a Train-the-Trainer programme, where training leads from each of the consortium members will receive training (delivered by programme partners and others)
- having those training leads deliver a range of local courses on open research practices in their own institution
- curating existing training resources, identify gaps in training materials, and develop (with our partners and others) new materials to address those gaps
- publishing the resources collection with permissive licenses, and disseminating them to the sector.

This year we made considerable progress on this workstream. We have consulted UKRN institutions on the materials / training they currently use, which might be more widely available, and on their effectiveness. We have also consulted UKRN institutions on priorities and local gaps in training resources / provision. Our next steps are to analyse this information, alongside the findings from the open research survey of active researchers in workstream 2 (evaluation). From this analysis, and discussions with our programme training partners and others such as HDR-UK and OpenAIRE, we will generate the first iteration of a syllabus and training catalogue. We aim to have this done by August 2023 and to share both via a dedicated, interoperable website (see workstream 3).

Governance and Oversight

Keele University's [Research Committee](#) oversees the integrity of the University's research on behalf of the University Executive Committee, [Senate](#), and [Council](#), and will review and approve this statement.

Research Misconduct

The University provides assurance that the processes in place for dealing with allegations of misconduct are transparent, robust and fair and that they are appropriate to the needs of the organisation. The University has a policy for the investigation of allegations of research misconduct which has been approved by the Universities Senate committee following the release of the revised concordat to support research integrity. The policy can be accessed in Keele's [policy zone](#).

Research Misconduct Investigations

	Number of informal investigations completed			Number of formal investigations completed			Number of allegations upheld (in whole or part)		
	2015-2020	2020-2021	2021-2022	2015-2020	2020-2021	2021-2022	2015-2020	2020-2021	2021-2022
Fabrication	0	0	0	0	0	0	0	0	0
Falsification	0	0	0	0	0	0	0	0	0
Plagiarism	0	0	0	0	0	0	0	0	0
Failure to meet legal, ethical and professional obligations	0	0	0	0	0	0	0	0	0
Mis-representation	0	0	0	0	0	0	0	0	0
Breach of duty of care	0	0	0	0	0	0	0	0	0
Improper dealing with allegations of misconduct	0	0	0	0	0	0	0	0	0
Other	0	0	0	1	0	0	0	0	0

Table 1 - Summary of investigations into allegations of research misconduct. Informal investigations are those that were received and upon review of the details and evidence it was decided that a formal review was not appropriate and that the Faculty Dean for Research would meet with the individual(s) involved and provide support and mentorship. Formal investigations involve a panel to review the allegation and decide on appropriate outcomes.

Future Developments

During the 2022-23 academic year, the Pro-Vice-Chancellor for Research and Innovation, the Academic Lead for Research Integrity and Improvement, the Faculty Research Integrity Champions and the Director of Research Strategy Delivery will work together to deliver the following:

Open Research
Open research will continue to be a priority for the team. Maximising the transparency and openness of the research pipeline is essential to maximise the integrity and impact of the work conducted at Keele University and its partners. Engagement with Open Research practices aligns closely with UK research funders—including UKRI—who are increasingly expecting full compliance and engagement with development of Open Research practices. We will continue

to develop and enhance our robust governance structures, professional support and academic leadership for research ethics, governance and integrity and essential backbones of our research mission.

Our three-year Open Research Action Plan moves into its second year and provides priorities for the 2022-23 academic year against the following five themes:

1. **Training Researchers**
    a. Deliver "Introduction to Open Research at Keele" course for academic and research/research support staff through Keele's Learning Pool and KDA.
    b. Explore embedding this training within probationary training requirements for new academic starters.
    c. Development & delivery of specialised open research training (e.g., pre-registrations, open code / open software etc.)
    d. Develop plan for—and start to deliver—additional/alternative training for PGR students around statistical skills training, as it relates to open and reproducible research.
2. **Developing Researchers**
    a. Continue establishing the faculty-wide Open Research Networks, an informal collection of parties interested in open research matters. As part of this, via the UKRN local lead, the team will commence [ReproducibiliTea journal club](#) events.
    b. Support researcher-led projects/initiatives to drive uptake of engagement with open research locally (targeting one project per faculty).
    c. Continue Open Research Award for Research/Academic staff
    d. Continue the Open Research Award for PGR students
    e. Identify two Open Research Case Studies per faculty, for internal communication and website presence.
3. **Infrastructure**
    a. Continue to develop and enhance awareness with School Research Directors to engage with early drafts of grant applications to ensure open research activity is represented and costed in eligible grants.
    b. To develop recommendations for RIE about costings associated with Open Research practices in funding applications.
    c. Continue to monitor engagement with open data prompt within Symplectic systems. To make improvements to this system as appropriate, including broadening of the prompt recommendations (e.g., beyond open data, to track practices such as pre-registrations, open code etc.)
    d. Develop & maintain external Open Research webpages, to house training material, case studies, policy documents, and news. This will largely mirror the internal pages, but the external facing nature of the site allows showcasing of Keele's lead on these initiatives.
4. **Embedding open research in institutional practice**
    a. Embedding of open research culture and practice within Faculty strategy.
    b. Introduction of optional inclusion of open research discussion in School and individual research plans.
    c. Implementation of embedding open research criteria into recruitment, reward, promotion, and performance assessment.
5. **Establishing and nurturing external partnerships**
    a. To continue fruitful collaboration with UKRN partner institutions.