



Code of Good Research Practice

CODE OF GOOD RESEARCH PRACTICE

Section 1: The Principles of Good Research Practice

Introduction

Dublin City University has a responsibility to ensure that the research conducted by its staff and students conforms with the highest possible standards of integrity and with current legislation. As a member institution of the Irish Universities Association (IUA), DCU is committed to the [National Policy Statement on Ensuring Research Integrity in Ireland](#), which clarifies policy and sets out agreed good practice in promoting and ensuring research integrity. The DCU Code of Good Research Practice therefore reflects the key commitments contained within the National Policy Statement, with the aim of ensuring the highest standards of practice in the University's research.

Intellectual enquiry aimed at the development of human understanding and knowledge can be defined as research. The University values and supports all research and not just that contributing to products and services. The University acknowledges that high quality research is an integral part of the development of advanced education. In addition to promoting, encouraging and fostering research for its own sake, the University recognises that research is a principal component of the advanced education of its undergraduate and postgraduate students.

Research integrity is about knowing and meeting your responsibilities as a researcher. It means performing research to the highest standards of professionalism, at all points of the research process – from design through to dissemination. This code provides guidelines on the proper conduct of research, and the standards of work performance and ethical conduct expected of all DCU staff and students and persons engaged in research at Dublin City University. Heads of Schools/Centres have a general responsibility to seek to promote research integrity in their own units and encourage attendance at relevant training opportunities. Failure to comply with the university's Code of Good Research Practice may be grounds for instigating disciplinary proceedings. There is an onus on all staff and students to ensure that they are familiar with this Code of Good Research Practice in conjunction with other relevant existing policies and procedures of Dublin City University.

Guiding Principles

Good research practice concerns the way in which research is planned and conducted, the results are recorded and reported, and the fruits of research are disseminated, applied and exploited. The European Code of Conduct for Research specifies basic principles that underpin all research integrity and good practice in carrying out research, and these are endorsed by DCU

- **Honesty** in presenting research goals and intentions, in precise and nuanced reporting on research methods and procedures, and in conveying valid interpretations and justifiable claims with respect to possible applications of research results.
- **Reliability** in performing research (meticulous, careful and attentive to detail), and in communication of the results (fair and full and unbiased reporting).
- **Objectivity** interpretations and conclusions must be founded on facts and data capable of proof and secondary review; there should be transparency in the collection, analysis and interpretation of data, and verifiability of the scientific reasoning.
- **Impartiality and independence** from commissioning or interested parties, from ideological or political pressure groups, and from economic or financial interests.
- **Open communication**, in discussing the work with other scientists, in contributing to public knowledge through publication of the findings, in honest communication to the

general public. This openness presupposes a proper storage and availability of data, and accessibility for interested colleagues.

- **Duty of care** for participants in and the subjects of research, be they human beings, animals, the environment or cultural objects. Research on human subjects and animals should always rest on the principles of respect and duty of care.
- **Fairness**, in providing proper references and giving due credits to the work of others, in treating colleagues with integrity and honesty.
- **Responsibility for future science generations**. The education of young scientists and scholars requires binding standards for mentorship and supervision.

To retain professional and public trust, it is vital that all researchers accept personal responsibility to uphold these principles. DCU look to support researchers in this regard through education and promotion of good research practices, and by using transparent, fair and effective processes to deal with allegations of research misconduct when they arise.

Section 2: Management of Good Research Practice

Researchers must select projects, accept funding, and conduct research in conformity with the specific trust placed in them by their colleagues, their peers, and the university and society at large. Observance of the aforementioned guiding principles must underlie all decisions and actions related to research.

Researchers undertaking funded research have a responsibility to read the terms and conditions of such funding before engaging in research to ensure that they understand the implications of undertaking of such research and that they accept these terms as the basis for the research.

Honesty and Integrity

Researchers must be honest in respect of their own actions in research and in their responses to the actions of other researchers. This applies to the whole range of research work, including design, generating and analysing data, applying for funding, publishing results, and acknowledging the direct and indirect contribution of colleagues, collaborators and others. The University aims to promote integrity in research through good example, training and open discussion of issues of research integrity. The following forms of misconduct are especially serious breaches of honesty and integrity:

- any form of fraud, such as fabricating or falsifying data or records of analysis
- piracy or plagiarism
- sabotaging the work, records or protocols of other researchers
- breach of confidence as a reviewer or supervisor
- mismanagement of funds

Researchers are encouraged to report cases of suspected misconduct and to do so in a responsible and appropriate manner. The University has a policy on the reporting and investigation of allegations of misconduct, and sanctions those against whom such allegations are proven (see page 8 for further details).

Openness

The University encourages researchers to be as open as possible in discussing their work with other researchers and with the public. Once results have been published, researchers should make available relevant data and materials to others, on request, provided that this is consistent with any ethical approvals and consents which cover the data and materials, and any intellectual property rights (IPR) in them. Data should be stored and organised in such a way that it may be usefully accessed by others. The University recognises that researchers may need to protect formally such intellectual property rights and provides support through DCU Invent on managing IPR (see page 8)

The provision of Open Access to research publications including research theses is being supported by many national funding agencies and the DCU library. The Open Access concept

embraces two complementary strategies which aim to provide free scholarly literature via Institutional Repositories and Open Access Journals. The DCU Library Institutional Repository (<http://www.doras.dcu.ie>) provides a secure central repository for the research output of the university and makes scholarly information produced in DCU available to the wider academic community thereby providing for greater visibility and higher impact for this material which will be globally accessible over the internet. Furthermore, researchers are strongly encouraged to record all research outputs in the DCU Research Support System (RSS) in accordance with best international practice and to showcase their research and experience such that they may develop their international profile. A high visibility profile offers the potential to develop new collaborations, increase citation levels and to increase invitations to review and to participate in conferences, workshops etc.

Respect and Dignity

Researchers must adhere to the University Policy to Promote Respect and to Protect Dignity (see <https://www.dcu.ie/policies/policies.shtml>). All members of the DCU community are expected to conduct themselves in a professional way any allegations of bullying or harassment should be addressed through the University Policy.

Conflict of interest

Within the general framework of DCU's Strategic Plan and Human Resource policies, individual departments and academic staff develop their own 'portfolio' of research activity, including external collaborations. However, by engaging in certain activities, employees may place themselves in a position which conflicts with their DCU duties, or compromises the independence and integrity of their research. Many research funding agencies, in Ireland and internationally, are now seeking assurance that universities are properly managing such conflicts as a condition of research grant funding.

A DCU employee may be open to suspicion that decisions they take as a DCU employee are influenced by personal interest. In the vast majority of cases simple disclosure of potentially conflicting activities is sufficient. The DCU Conflict of Interest Policy (see <https://www.dcu.ie/policies/policies.shtml>) document sets out DCU's policy and provides some practical guidelines to its employees on how they should manage potential or actual conflicts.

Leadership and co-operation

Within the University, it is the responsibility of the President and University Officers, the Executive Deans, Heads of School/Directors of Research Centres and their senior colleagues to ensure that a research climate of mutual co-operation is created in which all researchers are encouraged to develop their skills, and in which the open exchange of ideas is fostered. They must also ensure that appropriate direction of research and supervision of researchers and research students is provided. Responsibilities should be clearly allocated and understood.

Supervision

There is a responsibility on supervisors (including those of research and of taught programme students undertaking research), to ensure that good practices are learned and followed. Research misconduct is less likely to occur in an environment where good research practice is encouraged and where there is adequate supervision at all levels. A researcher must decline appointment as a supervisor of a research programme or thesis if that person expects not to be able to discharge the responsibilities in full.

The role of research supervisors is detailed in full in the Academic Regulations for Postgraduate Degrees by Research and Thesis which are accessible online at: https://www.dcu.ie/registry/regulations/postgraduate_regulations.shtml

Financial Integrity in the Management of Research Funds

Research funding bodies all have their own rules on the administration of awards, including financial management and reporting requirements. It is the responsibility of the award recipient, usually identified as Principal Investigator, to ensure compliance with all funding body rules.

Expenditure on a project grant from internal and/or external sources will be permitted only when a grant or contract has been formally accepted by Research and Innovation Support (RIS) on behalf of the University, the Research Accounting – Finance Office has been notified and a specific research account has been set up for the Principal Investigator. It is the responsibility of the Principal Investigator to ensure that expenditure on the grant is in accordance with the budget and the associated terms and conditions. Financial irregularities, including overspends, are considered serious breaches of good practice. If they are not resolved with the Principal Investigator (in conjunction with his/her Head of School/Centre) they may be dealt with through the University's disciplinary procedures.

Financial management responsibilities include:

- Integrity of the financial reporting cycle from initiation of transactions through to financial reporting externally and internally.
- Accurate coding of transactions at initiation stage.
- Regular monitoring and review of recorded costs with financial budgets.
- Authorised, accurate and complete financial data recorded for each project.
- Adherence to Irish Employment/Tax Laws and Regulations.
- Prior to relocating to another institution, Research and Innovation Support and the Finance Office should be notified when existing research grants are to be transferred to another institution to ensure appropriate arrangements are in place.
- Responsibility remains at all times with the individual to ensure that their personal tax affairs are in order. The University at all times is obliged to and will comply with Irish Revenue Law.
- Audits: The Research Accounting-Finance Office is the principal point of contact for sponsors in respect of financial audits. Principal Investigators should be available to answer audit queries and provide such assistance as is required

There is a requirement and need to review and proactively manage projects on an ongoing basis and not just near the end of the project life cycle when funds are scarce. The Research Accounting-Finance Office Research send out monthly reports to Principal Investigators to assist them in managing their projects. Web-based access to account details facilitates ongoing monitoring, and the Research Accounting-Finance Office personnel are available to discuss any financial management issues.

Non compliance with the highest levels of financial integrity can result in:

- Stopping all further expenditure on specific grant(s)
- Removal of access to internal funding including research overheads
- Formal disciplinary action

Research Equipment

All research equipment designated "research equipment" is owned by DCU (unless otherwise agreed in writing) and should be entered on the Fixed Assets Register. Research equipment represents a large capital investment by the university, its staff, funding agencies and other stakeholders. Therefore, there is an onus on the university (and/or PI) to ensure such equipment is properly maintained and utilised. In the spirit of collaboration, access to research equipment should be provided on request, taking into account the suitability of the equipment for the task, available capacity and clearly identified additional costs.

In the event of a member of staff relocating to another institution, requests for transfer of research equipment should be made in writing where:

- A. The purchase value of the equipment was <€100,000 to the Head of School/Centre and Executive Dean of Faculty. The Head of School/Centre in conjunction with the Executive Dean of Faculty will consider such requests taking into account the source

of funding for the equipment (including previous and/or contract arrangements for the equipment if any), degree of usage by other DCU staff and other considerations.

- B. The purchase value of the equipment was >€100,000 to the Vice-President for Research and Innovation. The Vice-President for Research and Innovation will consider such requests taking into account the source of funding for the equipment (including previous and/or contract arrangements for the equipment if any), degree of usage by other DCU staff and other considerations. The Vice-President for Research and Innovation will report decisions relating to such requests to the DCU Executive.

Research Ethics

The quality of any research depends not only on its scientific rigour, but also on its ethical adequacy. Ethical issues are many and varied, and may be quite complex. As required by many external research funding bodies and in keeping with good practice, DCU operates a research ethics approval system. Research projects with human or animal participants are required to be approved through these procedures, protecting the research participants, the researchers, and the good name of the University. DCU's Research Ethics Committee provides guidance on these procedures

(<https://www.dcu.ie/researchsupport/researchethics.shtml>)

In general, it is expected that members of the DCU research community will pursue their research activities in a manner that is consistent with the highest standards of ethical and scientific practice, and will seek to maximise the benefits and minimise the harm associated with their research. Researchers must refrain from any conduct or action in their role as a researcher employed by the University which would cause excessive risk to either themselves or their proposed participants, or unjustifiably detract from the good name of the institution. Supervisors of students, both undergraduate and postgraduate have ultimate responsibility to work with students on the submission of project proposals to the REC where required, and the subsequent monitoring of ethical standards in the conduct of the projects. For further guidance, please refer to the DCU Research Ethics Guidelines on the REC webpage

(<https://www.dcu.ie/researchsupport/researchethics.shtml>)

Health & Safety in Research

Researchers need to understand and manage the hazards and risks to their own and others' health and safety associated with their project. Core to developing such understanding is the identification of hazards and the assessment of risks on the project. It is expected that researchers will work closely with their supervisors to identify and control significant risks associated with their work and to develop their competence (through specific training etc) in the safety aspects of their research. In addition, researchers must make themselves aware of the health and safety policies (both local and DCU wide) applicable to their work. For further information please refer to the DCU Framework Safety Statement (see <https://www.dcu.ie/policies/policies.shtml>) and Local School / Research Centre Safety Statements.

Training, development and support of young researchers

The University, through Training & Development in the Human Resources department and individual Faculties, Schools and Centres, provides training opportunities for all university staff including early career researchers. Complementary training opportunities for research students are provided through the Graduate Studies Office. A Researchers Development Programme was developed by RIS and HR specifically to enable young researchers to understand and adopt best practice in research as quickly as possible. The Research Ethics Committee provides further support through awareness-raising workshops and a network of research ethics advisers. The Research Accounting-Finance Office in conjunction with HR have developed a training session called "Understanding Finance for Researchers" which is specifically aimed at helping researchers understand the financial management and accountability issues involved in running a research project.

In order to promote best practice in responsible research behaviour, DCU also provides online training in Research Integrity. The course provides researchers with a better understanding of the obligations and responsibilities that today's researchers have, along with practical advice on how to deal with the complex situations in which they may find

themselves. It includes practical information that users can quickly apply to their own situations, and that captures the complexity of real-life situations.

By the end of the course, researchers should be able to:

- Know, understand and explain the key responsibilities they have as a researcher
- Identify the challenges they could face in meeting those responsibilities
- Be aware of strategies for dealing with pressures and difficult situations

Further detail on the training is available via the Research Integrity pages of the website (https://www.dcu.ie/researchsupport/research_integrity.shtml). Supervisors should be aware of the contents of the university training on Research Integrity in order to advise students on the issues that may arise when they are planning, conducting and reporting their research. Supervisors should encourage students to attend relevant internal and external training courses, related to good research practice, as part of their overall career development.

Section 3: Research Results and Resources

The need for a critical approach

Researchers should always adopt a critical approach in questioning the outcome of their research. While acknowledging the pressures and constraints under which researchers often have to work, the University expects research results to be checked thoroughly before being made public. It is important that ideas and findings can be challenged and tested. Researchers should ensure they do not become subject to pressures that compromise the normal processes of research enquiry, e.g. constraints on data presentation or on publication imposed by a funding source.

Primary data / samples & personal data

Researchers should provide clarity at the outset of any research programme as to the ownership and use of, where relevant:

- personal data;
- other data and samples used or created in the course of the research;
- the results of the research.

The responsibilities and procedures for the storage and disposal of all data and samples (including compliance with the requirements of the DCU Research Ethics Committee, or any relevant external ethics committee) should be made clear at the start of any project.

When collecting or processing personal data, researchers must be aware of the obligations imposed upon them by both legislation and the DCU Data Protection Policy which is available on the DCU website (see <https://www.dcu.ie/policies/policies.shtml>). The University's Data Protection Unit will assist researchers in meeting their obligations.

The appropriate period for retaining data will depend on circumstances and the research field in question. Equally the means of data storage should be appropriate to the task. Even if the individuals responsible for generating the data relocate, a set should be retained in DCU. This is particularly important in the case of Masters and PhD students who leave the university on completion of their higher degree. Data sets are an important resource, which enable later verification/audit of scientific interpretation and conclusions, and may also be the starting point for further studies. DCU looks to provide further information on data management and storage via the Research Integrity webpage (https://www.dcu.ie/researchsupport/research_integrity.shtml)

Researchers must also pay particular attention to any non-disclosure agreements entered into and/or non-disclosure clauses in proposed funding agreements and ensure they do not compromise good practice in data/sample retention and/or publication of research outputs.

Intellectual property

DCU researchers have a duty to ensure that intellectual property arising from their work is properly protected. It is DCU policy that researchers must inform **DCU Invent** of any intellectual property rights that may arise from research and in the case of externally funded research also inform the sponsor, if they so request. Full details of the University's policy on managing intellectual property are available on the DCU website: (see <https://www.dcu.ie/policies/policies.shtml>).

It is essential to keep thorough records of experimental work as part of good research practice and also for intellectual property purposes. Carefully maintained laboratory notebooks may be necessary to prove the date of an invention and its reduction to practice. It is particularly important that appropriate laboratory notebooks are used for projects involving industrial collaborators and in many cases it is stipulated in collaborative research agreements.

Publication and dissemination of results of research and scholarship

The University encourages the publication of and dissemination of results of high quality research but believes that researchers must do this responsibly and with an awareness of the consequences of any such dissemination in the wider media. The DCU Code of Practice on Authorship provides clarity for DCU staff and students on the issue of authorship of research papers, reports or other research outputs: (see <https://www.dcu.ie/policies/policies.shtml>)

Researchers must ensure their compliance with non-disclosure agreements and/or confidentiality provisions applying to specific projects, prior to publication of research results.

Allegations of research misconduct

Breaches of research integrity take many forms and can be of varying seriousness. The most serious are:

- Fabrication of data i.e. making up results and recording or reporting them.
- Falsification of data i.e. manipulating research, materials, equipment or processes, or changing or omitting data or results such that the research is not accurately represented in the research record.
- Plagiarism i.e. the appropriation of another person's ideas, processes, results, or words without giving appropriate credit, including those obtained through confidential review of other's research proposals and manuscripts.

Each one of these comprises an attack on the integrity of the research record and as such, must be vigorously defended against.

While Fabrication, Falsification, and Plagiarism (FFP) represent the most serious examples of misconduct, there are also additional types of poor practices which, while not as serious as FFP in individual instances, may be present and therefore (in the aggregate) potentially as damaging to the overall reputation of research and the research community's integrity. These poor practices include but are not confined to:

- Data-related poor practice e.g. not preserving primary data, poor data management and/or storage;
- Publication-related practice e.g. claiming undeserved authorship, denying authorship to contributors, artificially proliferating publications;
- Personal behaviours e.g. inadequate mentoring of next generation of researchers and scholars, inappropriate personal behaviour;
- Financial and other malpractice e.g. peer review abuse, non-disclosure of a conflict of interest, misrepresenting credentials;
- Poor research procedures e.g., harmful, dangerous or unethical research methods.

Researchers may make honest errors in collection or interpretation of data, but penalties for misconduct may apply where practices have been adopted that deviate significantly from those commonly accepted by the scientific community for conducting, reporting, or proposing research. No claims of misconduct against other people should be made that are frivolous

and based on hearsay. For further guidance please refer to the DCU Policy for Dealing with Allegations of Research Misconduct (see <https://www.dcu.ie/policies/policies.shtml>) Where specific issues arise in relation to the Code of Good Research Practice these should be addressed, where feasible, within the research team before being raised at the faculty or university level.

This Code should be read in conjunction with all other relevant existing policies and procedures of Dublin City University, including the University Policy for Dealing with Allegations of Research Misconduct, Conflict of Interest Policy, and DCU Code of Practice on Authorship.

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