

# University Code of Good Practice in Research

*May 2012 (updated April 2017)*

*As approved by the University Board for Research and Innovation*

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# 1.0 Introduction

## 1.1 Preamble

The University of Reading Code of Good Practice in Research (the Code) is based upon the UK Research Integrity Office's Code of Practice for Research ([UKRIO Code](#)). Everyone at the University has a responsibility to ensure that research is undertaken in conformity with the law, in line with funders' contractual terms and conditions and in accordance with best current practice. To these ends, the University provides an environment where good research practice is encouraged throughout its research activities. This Code sets out the standards of performance and conduct expected of all those engaged in research in the University of Reading, and is applicable both to individual researchers and to the University as a whole.

## 1.2 Applicability

The Code applies to everyone (University employees, students, visiting researchers (including those holding Honorary University appointments) and sub-contractors) conducting research within, or on behalf of, the University. The Code is applicable to all subject areas and to all constituent [organisational units](#) of the University.

## 1.4 Complementarity

The Code complements existing guidance on research conduct from important funders of research and professional bodies including:

[Research Councils UK](#)

[Policy and Code of Conduct on  
Good Research Governance](#)

[Universities UK](#)

[The Concordat to Support  
Research Integrity](#)

[Department for Environment  
Food and Rural Affairs \(Defra\)](#)

[Joint Code of Practice for  
Research \(JCoPR\)](#)

[Wellcome Trust](#)

[Guidelines on Good Research Practice](#)

[Department of Health](#)

[Research Governance Framework for Health and Social Care \(RGFHSC\)](#)

[Royal Pharmaceutical Society](#)

[Standards of conduct, ethics and performance](#)

### **1.5 Code structure**

The Code is organised in the following Sections:

- a) Section 1 – this *Introduction*
- b) Section 2 contains broad *Principles* which define the responsibilities and values in the conduct of research by everyone at the University.
- c) Section 3 lists *Standards* for good practice in research with which we must all comply. The Standards apply to all disciplines of research.
- d) Section 4 is a one page *Recommended Checklist for Researchers*. This is a non-technical checklist summarising the key points of good practice in research and is applicable to all subject areas. The Checklist is based on the more detailed Standards given in Section 3.

### **1.8 Research definition**

Note that, for the purposes of this Code, “research” refers to the definition used by the Research Assessment Exercise (Research Assessment Exercise 2008, p. 34):

- a) “‘Research’... is to be understood as original investigation undertaken in order to gain knowledge and understanding. It includes work of direct relevance to the needs of commerce, industry, and to the public and voluntary sectors; scholarship\*; the invention and generation of ideas, images, performances,

artefacts including design, where these lead to new or substantially improved insights; and the use of existing knowledge in experimental development to produce new or substantially improved materials, devices, products and processes, including design and construction. It excludes routine testing and routine analysis of materials, components and processes such as for the maintenance of national standards, as distinct from the development of new analytical techniques. It also excludes the development of teaching materials that do not embody original research.”

b) “\* Scholarship... is defined as the creation, development and maintenance of the intellectual infrastructure of subjects and disciplines, in forms such as dictionaries, scholarly editions, catalogues and contributions to major research databases.”

**1.10** Since this Code applies to undergraduate students, those who have responsibility for undergraduate courses must ensure that the Code is used as a teaching and learning resource such that undergraduates develop an understanding of its application and undertake their own research in compliance with its provisions.

### **1.11 Sources**

Sources used in the development of the Code are acknowledged in the appendix. In particular, the University acknowledges the contribution of the [UKRIO](#) whose [code](#) which has played a central role in shaping this most recent revision of the University’s guidance. The [UKRIO](#) may also be useful to researchers as a valuable source of independent, confidential and expert advice and guidance on any issues relating to good practice and misconduct in research.

### **1.12 Responsibilities**

Senior managers in the University are ultimately responsible for the overall quality of research conducted in the University, including compliance with the organisation’s research and management policies. The University Board for Research and Innovation, under the Chairmanship of the [PVC-Research and Innovation](#), is the primary body where issues related to Research Governance, including this Code, are considered. Schools have a responsibility to ensure a

climate of good research practice in research centres, groups or teams, including the development of appropriate research skills. Heads of Schools are responsible for the research conducted within their Schools. Investigators are also charged with implementing the Code as it applies to their research projects. All staff and students must have defined responsibilities in relation to the particular project they are engaged on and be aware of those responsibilities.

The creation of a sound research culture is essential to good research practice. The University has published its [Strategy for Research](#), which sets out its research aims and objectives and its plans to foster and support research within the [Academic Schools](#). Within Schools, Research Centres and groups, the responsibility for the culture lies with the Heads, Directors, and research group leaders. Those responsible must create a research environment of mutual co-operation in which researchers are encouraged to develop their skills and in which open exchange of ideas is fostered.

## **2.0 Principles**

**2.0.1** All researchers at the University must adhere to the following principles, which set out the responsibilities and values relevant to research. While some elements may seem self evident, and there is some overlap, these principles aim to encourage all involved in research to consider the wider consequences of their work and to engage critically with the practical, ethical and intellectual challenges that are inherent in the conduct of high quality research, rather than treating codes of practice such as this as just another procedure to be followed.

**2.0.2** Researchers must be guided by these principles when implementing and complying with the core Standards (section 3) and the Recommended Checklist for Researchers (section 4).

**2.1 EXCELLENCE:** The University encourages its researchers to strive for excellence when conducting research. Researchers must aim to produce and disseminate work of the highest quality. This Code, its principles and its standards are intended to support these goals.

**2.2 HONESTY and INTEGRITY:** The University works to create and maintain a culture that fosters and supports honesty in research. This applies to the whole range of work encompassed within the research process from the initial formulation of concepts and hypotheses, through methodological and/or experimental design, through analysis of data or ideas, to the publication of results and the acknowledgement of the contributions of others. Researchers must refrain from plagiarism, infringement of intellectual property rights, and the fabrication of results. They must neither engage in misconduct nor conceal it. Researchers must comply with all legal and ethical requirements relevant to their field of study. They must declare any potential or actual conflicts of interest relating to research and where necessary take steps to resolve them.

**2.4 COOPERATION and OPENNESS:** The University promotes the open exchange of ideas, research methods, data and results and their discussion, scrutiny and debate, subject to any considerations of confidentiality. Researchers must contact [Research and Enterprise](#) for advice about protecting intellectual property rights and their potential exploitation before the release of results by public disclosure.

**2.5 ACCOUNTABILITY:** The University recognises that in and through their work researchers are ultimately accountable to the general public and must act accordingly. Researchers, and particularly PIs, must ensure that the research they undertake is consistent with the terms and conditions as defined by the funding body and/or covered by agreements between the University and the funding body. This includes the need to ensure that the research is carried out as defined in the original proposal to the funding body unless amendments have been agreed in writing; that finance is used solely for the purposes for which it was intended unless permission for alternative use has been granted; that reports are both timely and accurate; and that conditions relating to publication and the ownership of intellectual property are met. Researchers must follow the requirements and guidance of any professional bodies in their field of research. Researchers who are members of a regulated profession must follow the requirements and guidance of the body regulating their profession.

**2.6 TRAINING AND SKILLS:** The University provides training and opportunities for development for its researchers, and the necessary resources to enable them to conduct research to the required standards. It supports researchers in identifying unmet needs for training and development. Researchers at the University must ensure that they have the necessary skills, training and resources to carry out research, in the proposed research team or through collaboration with specialists in relevant fields, and report and resolve any unmet needs identified.

**2.7 SAFETY:** The University and its researchers must ensure the dignity, rights, safety and well-being of all involved in research and avoid unreasonable risk or harm to research subjects, patients, participants, researchers and others. They must report and address any concerns relating to the dignity, rights, safety and wellbeing of those involved in research. Research must be initiated and continued only if the anticipated benefits justify the risks involved.



## **3.0 Standards for the University and its researchers**

**3.0.1** Everyone involved in research at the University must comply with the following core standards, which must be interpreted in light of the principles in Section 2.

### **3.1 General guidance on good practice in research**

#### **3.1.1 Adherence to legal and ethical guidelines**

Those involved in research at the University must comply with all legal and ethical requirements and other guidelines that apply to their research. This includes submitting research proposals for ethics review where appropriate and abiding by the outcome of that review. Researchers must also ensure that research projects are approved by all applicable bodies, ethical, regulatory or otherwise. Guidance on University procedures for ethical assessment, review and approval can be found [here](#). For guidance on all legal matters, contact the legal services department of Research and Enterprise [here](#).

#### **3.1.2 Applicability for overseas research**

When conducting, or collaborating in, research in other countries University researchers must comply with the legal and ethical requirements existing in the UK and in the countries where the research is conducted. Similarly researchers based abroad who participate in UK hosted research projects must comply with the legal and ethical requirements existing in the UK as well as those of their own country. Advice on international work may be obtained from the Centre for the Development of Teaching and Learning [here](#).

#### **3.1.3 Insurance and indemnity**

University researchers must ensure that all research projects have sufficient arrangements for insurance and indemnity prior to the research being conducted. Guidance on University procedures for insurance and indemnity may be found [here](#).

#### **3.1.4 Responsibilities of the University**

The University:

- a) ensures that good practice in research forms an integral part of its research strategy and policies;

- b) establishes clear policies and procedures that cover the principles of good practice in research (see section 2) and offers detailed guidance on the Standards set out in this Code via the [Coordinator for Quality Assurance in Research](#);
- c) ensures that these policies and procedures complement and are in accordance with existing University policies, such as those for [health and safety](#), [raising concerns at work](#), [management of finances](#) or of [intellectual property](#), and [equality and diversity](#);
- d) makes sure that its researchers are aware of these policies and procedures and that all research carried out under the auspices of the organisation complies with them;
- e) provides training, resources and support to researchers to ensure that they are aware of these policies and procedures and are able to comply with them;
- f) encourages researchers to consider good practice in research as a routine part of their work; and
- g) monitors these measures for suitability and effectiveness and reviews them where necessary.

### **3.1.5 Responsibilities of researchers**

Researchers must:

- a) recognise their responsibility to conduct research of high ethical standards;
- b) be aware of the University's policies and procedures on good practice in research;
- c) make sure that their research complies with these policies and procedures, and seek guidance from the University (via the [Coordinator for Quality Assurance in Research](#)) when necessary;
- d) ensure that they have the necessary training, resources and support to carry out their research; and
- e) suggest to their managers and to the University as a whole how guidance on good practice in research might be developed or revised.

### **3.1.6 Appropriateness of research funders**

The University reserves the right to withhold permission for its staff to engage in research contracts with certain funding bodies. In certain cases, permission may need to be obtained from the Vice Chancellor. Guidance is available from [Research & Enterprise](#).

## **3.2 Leadership and supervision**

**3.2.1** The University promotes and maintains an environment which fosters and supports research of high ethical standards, mutual co-operation, professionalism and the open and honest exchange of ideas. University researchers must ensure that good conduct in research is promoted and inappropriate conduct is identified and addressed.

**3.2.2** The University is committed to providing direction and supervision of research and researchers, setting out clear lines of accountability for the organisation and management of research. The University provides support for researchers in meeting the legal and ethical requirements of conducting research. It encourages the career development of its researchers and provides training and mentoring of new researchers. It provides training and support for Principal Investigators and Supervisors. The University actively supports the Concordat to Support the Career Development of Researchers and was one of the first 10 UK universities to receive the European Commission's 'HR Excellence in Research' badge.

**3.2.3** Research staff involved in the supervision and development of other researchers must be aware of their responsibilities and ensure that they have the necessary training, time and resources to carry out that role, and request support if required. Aspects of the supervisor's role are set out in the [University of Reading Code of Practice on Research Students](#).

## **3.3 Training and mentoring**

**3.3.1** The University provides training for researchers to enable them to carry out their duties and develop their knowledge and skills throughout their career. This includes training in the responsible design, conduct and

dissemination of research. It provides support for researchers in identifying unmet needs for training and development. The University aims to provide by October 2014 qualified mentors to assist in the training and career development of new researchers. It provides career development and educational opportunities for researchers who are more established in their careers.

**3.3.2** The University's Graduate School provides support for its doctoral researchers. All of the University's student researchers are provided with information on the standards and organisational policies and procedures that they are expected to comply with.

**3.3.3** Researchers must undergo training in order to carry out their duties and to develop their knowledge and skills throughout their career, repeating training where necessary to ensure that skills are kept up-to-date. They must identify needs for training when they arise and report them to their Principal Investigator or Supervisor. See also section [3.2.3](#).

## **3.4 Research design**

**3.4.1** When designing research projects, researchers must ensure that:

- a) the proposed research addresses pertinent question(s) and is designed either to add to existing knowledge about the subject in question or to develop methods for research into it;
- b) the design of the study is appropriate for the question(s) being asked and addresses the most important potential sources of bias; Within the University, advice on all aspects of statistical design and analysis is available from the [Statistical Advisory Service](#) or from the [Statistical Services Centre](#) for un-funded and funded research programmes respectively.
- c) the design and conduct of the study, including how data will be gathered, analysed and managed, are set out in detail in a prespecified research plan or protocol;

- d)** all necessary skills and experience will be available to carry out the proposed research, in the proposed research team or through collaboration with specialists in relevant fields;
- e)** sufficient resources will be available to carry out the proposed research and that these resources meet all relevant standards;
- f)** any issues relating to the above are resolved as far as possible prior to the start of the research.

**3.4.2** Researchers must conduct a risk assessment of the planned study to determine:

- a)** whether there are any ethical issues and whether ethics review is required; University research ethics policies and procedures may be found [here](#)
- b)** the potential for risks to the organisation, the research, or the health, safety and wellbeing of researchers and research participants. Health and Safety guidance is available [here](#); and
- c)** what legal requirements govern the research. In the first instance, guidance on legal matters may be obtained from [Research and Enterprise](#).

**3.4.3** Where the design of a study has been approved by ethics, regulatory or peer review, researchers must ensure that any subsequent alterations to the design are subject to appropriate review to determine that they will not compromise the integrity of the research or any terms of consent previously given.

**3.4.4** The University has in place systems to ensure that when there are risks that proposed research or its results may be misused for purposes that are illegal or harmful, those risks are identified and addressed. University guidance on risk management and risk assessment may be found [here](#) and [here](#).

**3.4.5** Researchers must try to anticipate any risks that the proposed research might produce results that could be misused for purposes that are illegal or harmful. Researchers must report any risks to, and seek guidance from, the appropriate person(s) in the University and take action to minimise those risks. In the first instance, researchers at the University must report anticipated risks to their School Director of Research.

**3.4.6** Researchers must be prepared to make research designs available to peer reviewers and journal editors when submitting research reports for publication.

## **3.5 Collaborative working**

**3.5.1** Researchers must pay particular attention to projects which include participants from different countries or where work will be carried out in another country due to the additional legal and ethical requirements and other guidelines that may apply. See also sections [3.1.2](#), [3.7.2](#) and [3.8.2](#) .

**3.5.2** The University works with partner organisations to ensure the agreement of, and compliance with, common standards and procedures for the conduct of collaborative research, including the resolution of any issues or problems that might arise and the investigation of any allegations of misconduct in research if they occur.

**3.5.3** Researchers must be aware of the standards and procedures for the conduct of research followed by any organisations involved in collaborative research that they are undertaking. They must also be aware of any contractual requirements involving partner organisations, seeking guidance and assistance where necessary and reporting any concerns or irregularities to an appropriate person(s) as soon as they become aware of them.

**3.5.4** Researchers must try to anticipate any issues that might arise as a result of working collaboratively and agree jointly in advance how they might be addressed, communicating any decisions to all members of the research team. In particular, agreement must be sought on the specific roles of the researchers involved in the project and on issues relating to intellectual property, publication, and the attribution of authorship, recognising that, subject to legal and ethical requirements, roles and contributions may change during the time span of the research.

## **3.6 Conflicts of interest**

**3.6.1** Researchers must recognise that conflicts of interest (i.e. personal or institutional considerations, including but not limited to financial matters) can

inappropriately affect research. Conflicts of interest must be identified, declared and addressed in order to avoid poor practice in research or potential misconduct. Further information is available [here](#).

**3.6.2** When addressing a conflict of interest, researchers must decide whether it is of a type and severity that poses a risk of fatally compromising the validity or integrity of the research, in which case they must not proceed with the research, or whether it can be adequately addressed through declarations and/or special safeguards relating to the conduct and reporting of the research.

**3.6.3** The University has a clearly-written and accessible [policy](#) for addressing conflicts of interest, including guidance for researchers on how to identify, declare and address conflicts of interest.

**3.6.4** The University complies with the requirements of its policy for addressing conflicts of interest, as well as any external requirements relating to conflicts of interest, such as those of funding bodies. Senior staff must be aware of potential or actual conflicts of interest at the University level and disclose them when they arise so that they can be addressed.

**3.6.5** Researchers must comply with the University's policy for addressing conflicts of interest, as well as any external requirements relating to conflicts of interest, such as those of funding bodies. This must include declaring any potential or actual conflicts of interest relating to their research to: their Principal Investigator or supervisor; any ethics committee which reviews their research; and when reporting their findings at meetings or in publications. Conflicts of interest must be disclosed as soon as researchers become aware of them.

**3.6.6** Researchers must agree to abide by any direction given by the University or any relevant ethics committee in relation to a conflict of interest.

## **3.7 Research involving human participants, human material or personal data**

**3.7.1** University researchers must make sure that any research involving human participants, human material or personal data complies with all legal and ethical requirements and other applicable guidelines. Appropriate care

must be taken when research projects involve: vulnerable groups, such as the very old, children or those with mental illness; and covert studies or other forms of research which do not involve full disclosure to participants. The dignity, rights, safety and wellbeing of participants must be the primary consideration in any research study. Research must be initiated and continued only if the anticipated benefits justify the risks involved. University guidance on research ethics may be found [here](#). External links are also given for the [National Research Ethics Service](#) (re. work involving the NHS) and the [Human Tissue Authority](#) (re. storage of specified human tissues)

**3.7.2** When conducting, or collaborating in, research in other countries University researchers must comply with the legal and ethical requirements existing in the UK and in the countries where the research is conducted.

**3.7.3** University researchers must ensure the confidentiality and security of personal data relating to human participants in research and human material involved in research projects. University guidance on compliance with the Data Protection Act and the Freedom of Information Act maybe found [here](#) .

**3.7.4** While working with, for, or under the auspices of, any of the UK Departments of Health and/or the National Health Service, University researchers must adhere to all relevant guidelines, for example the [Department of Health's Research Governance Framework for Health and Social Care](#) and the [National Research Ethics Service's Guidance for Applicants](#). When involved in clinical trials on medicinal products for human use the University will, and researchers must, comply with the principles of [Good Clinical \(Research\) Practice](#). It is important to ascertain at the outset whether or not a particular study needs to be registered as a clinical trial under the UK Medicines for Human Use (Clinical Trials) Regulations. Definitive information may be found on the [Medicines and Healthcare products Regulatory Agency](#) website.

**3.7.9** Researchers must submit research projects involving human participants, human material or personal data for review by all relevant ethics committees and abide by the outcome of those reviews. They must also ensure that such research projects have been approved by all applicable bodies, ethical, regulatory or otherwise. University guidance on research ethics may be found [here](#). External links are also given for the [National Research Ethics Service](#) (re.



work involving the NHS) and the [Human Tissue Authority](#) (re. storage of specified human tissues)

**3.7.10** Researchers on projects involving human subjects must satisfy themselves that participants are able, by the provision of adequate accurate information in an appropriate form through suitable procedures, to give informed consent, having particular regard to the needs and capacities of vulnerable groups, such as the very old, children and those with mental illness. Where relevant, the provisions of the [Mental Capacity Act 2005](#) must be considered carefully.

**3.7.11** Researchers must inform research participants that data gathered during the course of research may be disseminated not only in a report but also in different forms for academic or other subsequent publications and meetings, albeit not in an identifiable form, unless previously agreed to, and subject to limitations imposed by legislation or any applicable bodies, ethical, regulatory or otherwise.

**3.7.12** Researchers who are members of a regulated profession must ensure that research involving human participants, human material or personal data complies with any standards set by the body regulating their profession.

**3.7.13** Researchers have a duty to publish the findings of all clinical research involving human participants. In addition, it is government policy to promote public access to information about any research and research findings affecting health and social care, including the principle that trials must appear on public registers. In this context “trials” means all comparative studies of health interventions, not just ones conducted in a clinical setting.

**3.7.14** If researchers consider that human participants in research are subject to unreasonable risk or harm, they must report their concerns to their Principal Investigator or supervisor, and, where required, to the appropriate regulatory authority. Similarly, concerns relating to the improper and/or unlicensed use or storage of human material, or the improper use or storage of personal data, must be reported.

## **3.8 Research involving animals**

**3.8.1** University researchers must ensure that research involving animals adheres to all legal and ethical requirements and other applicable guidelines. Researchers must consider the opportunities for reduction, replacement and refinement of involving animals in research projects and must refer to the relevant guidance from the [Home Office](#). University-specific guidance may be obtained from the [Specialist Adviser to the Certificate Holder](#).

**3.8.2** When conducting, or collaborating in, research in other countries, the University will, and its researchers must, comply with the legal and ethical requirements existing in the UK and in the countries where the research is conducted.

**3.8.5** Researchers must submit research projects involving animals for review by all relevant ethics committees and abide by the outcome of that review. They must also ensure that such research projects have been approved by all applicable bodies, ethical, regulatory or otherwise. University-specific guidance may be obtained from the [Specialist Adviser to the Certificate Holder](#).

**3.8.6** If researchers consider that animals involved in research are subject to unreasonable risk or harm, they must report their concerns at once to their Principal Investigator or supervisor, to those with responsibility for the animals' welfare under the Animals (Scientific Procedures) Act 1986 and, where required, to the appropriate regulatory authority.

## **3.9 Health and safety**

**3.9.1** University researchers must ensure that all research carried out under their auspices, or for which they are responsible, fulfils all requirements of health and safety legislation and good practice. Researchers must bear in mind that certain types of research, for example social research in a conflict zone, can present particular issues of health and safety. They must ensure that all research which involves potentially hazardous or harmful material or which might cause harm to the environment complies with all legal requirements and other applicable guidelines. The University's guidance on Health and Safety may be found [here](#).

**3.9.3** Researchers must submit such research for all forms of appropriate review and abide by the outcome of that review.

## **3.10 Intellectual property**

**3.10.1** University researchers must ensure that any contracts or agreements relating to research include provision for ownership and use of intellectual property. Intellectual property includes, but is not limited to: research data and other findings of research; ideas, processes, software, hardware, apparatus and equipment; substances and materials; and artistic and literary works, including academic and scientific publications. University guidance on intellectual property may be obtained from [Research & Enterprise](#).

**3.10.2** University researchers must not give prior disclosure of research or the findings of research when this might invalidate any commercial property rights that could result. The University recognises, however, that the presumption should be that any intellectual property discovered or developed using public or charitable funds must be disseminated in order to have a beneficial effect on society at large. That presumption may be rebutted where there is an express restriction placed on any such dissemination. Any delay in publication and dissemination pending protection of intellectual property must be kept to a minimum.

**3.10.3** University researchers must comply with any additional conditions relating to intellectual property required by funding bodies.

**3.10.4** The University will make it clear whenever its standard guidance does not apply; for example, it would normally waive copyright of articles prepared for publication in journals or books.

**3.10.5** Researchers must try to anticipate any issues that might arise relating to intellectual property at the earliest opportunity and agree jointly in advance how they might be addressed, communicating any decisions to all members of the research team.

## **3.11 Finance**

**3.11.1** University researchers must ensure that the terms and conditions of any grant or contract related to the research are adhered to.

**3.11.2** The University issues [guidelines](#) regarding the purchasing or procurement of materials, equipment or other resources for research and the hiring of staff for research projects. Additional guidance on resources for research projects may be obtained from [Research and Enterprise](#). Information on the monitoring and audit of finances relating to research projects is available [here](#).

**3.11.3** Researchers must comply with the University's guidelines regarding the use and management of finances relating to research projects. They must cooperate with any monitoring and audit of finances relating to research projects and report any concerns or irregularities to the appropriate person(s) as soon as they become aware of them. University guidance on all aspects of research finance may be obtained from [Research & Enterprise](#).

## **3.12 Collection and retention of data**

**3.12.1** University researchers must comply with all legal, ethical, funding body and organisational requirements for the collection, use and storage of data, especially personal data, where particular attention must be paid to the requirements of data protection legislation, guidance on which may be found [here](#). Researchers must also maintain confidentiality where undertakings have been made to third parties or to protect intellectual property rights. University researchers must ensure that research data relating to publications is available for discussion with other researchers, subject to any existing agreements on confidentiality. Guidance on the data management and retention policies of many of the University's important funders has been collated by the Data Curation Council [here](#). The University requires researchers to follow the guidance in the DCC's Data Management toolkit (available [here](#) with guidance available [here](#)) both for preparing data management plans prior to bid submission and for subsequent data management during the lifetime of the research project.

**3.12.2** Researchers must ensure that data is kept intact for any legally or contractually specified period and otherwise for three years at least, subject to any ethical or other requirements, from the end of the project. It must be kept in a form that would enable retrieval by a third party, subject to limitations imposed by legislation and general principles of confidentiality.

**3.12.3** The University will, and its researchers must, comply with any subject-specific requirements for the retention of data; for example, certain disciplines, such as health and biomedicine, may require research data to be retained for a considerably longer period.

**3.12.4** If research data is to be deleted or destroyed, either because its agreed period of retention has expired or for legal or ethical reasons, it must be done so in accordance with all legal, ethical, research funder and University requirements and with particular concern for confidentiality and security. Guidance on University policies for records management can be found [here](#).

**3.12.5** The University has in place procedures, resources (including physical space) and administrative support to assist researchers in the accurate and efficient collection of data and its storage in a secure and accessible form.

**3.12.6** Researchers must consider how data will be gathered, analysed and managed, and how and in what form relevant data will eventually be made available to others, at an early stage of the design of the project.

**3.12.7** Researchers must collect data accurately, efficiently and according to the agreed design of the research project, and ensure that it is stored in a secure and accessible form.

### **3.13 Facilities and equipment**

University researchers must ensure that the working environment is appropriate for safe operation of equipment, maintenance of sample quality and integrity, and good working practices. Special facilities which are used (e.g. fume cupboards, microbiological safety cabinets) must be checked and maintained regularly. All equipment must be appropriate for the measurements to be made, calibrated if necessary and be in good working condition and fit for purpose. Suitable records of calibration and maintenance must be kept.

### **3.14 Monitoring and audit**

**3.14.1** University researchers must ensure that research projects comply with any monitoring and audit requirements. The University will ensure that

researchers charged with carrying out such monitoring and audits have sufficient training, resources and support to fulfil the requirements of the role.

**3.14.2** The University will monitor and audit research projects to ensure that they are being carried out in accordance with the guidance in this Code, legal and ethical requirements, and any other guidelines, adopting a risk-based and proportional approach. For further guidance on research audit, contact the [Coordinator for Quality Assurance in Research](#).

**3.14.3** Researchers must consider any requirements for monitoring and audit at an early stage in the design of a project.

**3.14.4** Researchers must cooperate with the monitoring and audit of their research projects by the University and other applicable bodies and undertake such when required. They must cooperate with any outcomes of the monitoring and audit of their research projects. If they become aware of a need for monitoring and audit where it is not already scheduled, they must report that need to their Principal Investigator or Supervisor). For further guidance on research audit, contact the [Coordinator for Quality Assurance in Research](#).

## **3.15 Peer review**

**3.15.1** The University recognises that peer review is an important part of good practice in: the publication and dissemination of research and research findings; the assessment of applications for research grants; and in the ethics review of research projects.

**3.15.2** The University encourages researchers to act as peer reviewers for meetings, journals and other publications, grant applications and ethics review of research proposals, and supports those who do so. It recognises the obligations of peer reviewers to be thorough and objective in their work and to maintain confidentiality, and does not put pressure, directly or indirectly, on peer reviewers to breach these obligations.

**3.15.3** Researchers who carry out peer review must do so to the highest standards of thoroughness and objectivity. They must follow the guidelines for peer review of any organisation for which they carry out such work.

**3.15.4** Researchers must maintain confidentiality and not retain or copy any material under review without the express written permission of the organisation which requested the review. They must not make use of research designs or research findings from a paper under review without the express permission of the author(s) and must not allow others to do so. Researchers acting as peer reviewers must declare any relevant conflicts of interest.

**3.15.5** While carrying out peer review, researchers may become aware of possible misconduct, such as plagiarism, fabrication or falsification, or have ethical concerns about the design or conduct of the research. In such cases they must inform, in confidence, an appropriate representative of the organisation which requested the review, such as the editor of the relevant journal or chair of the relevant grants or ethics committee.

## **3.16 Publication and authorship**

**3.16.1** The University recognises the duty to publish and disseminate research in a manner that reports the research and all the findings of the research accurately and without selection that could be misleading.

**3.16.2** The University ensures that sponsors and funders of research: respect the duty of researchers to publish their research and the findings of their research; do not discourage or suppress appropriate publication or dissemination; and do not attempt to influence the presentation or interpretation of findings inappropriately.

**3.16.3** The University provides training and support to guide researchers in the publication and dissemination of research and the findings of research that involves: confidential or proprietary information; issues relating to patents or intellectual property; findings with serious implications for public health; contractual or other legal obligations; and/or interest from the media or the general public.

**3.16.4** Researchers must address issues relating to publication and authorship, especially the roles of all collaborators and contributors, at an early stage of the design of a project, recognising that, subject to legal and ethical requirements, roles and contributions may change during the time span of the

research. Decisions on publication and authorship must be agreed jointly and communicated to all members of the research team.

**3.16.5** Authorship must be restricted to those contributors and collaborators who have made a significant intellectual or practical contribution to the work. No person who fulfils the criteria for authorship may be excluded from the submitted work. Authorship must not be allocated to honorary or “guest” authors (i.e. those that do not fulfil criteria of authorship). Researchers must be aware that anyone listed as an author of any work must be prepared to take public responsibility for that work and ensure its accuracy, and be able to identify their contribution to it. Due regard, where relevant, should be paid to the order of authors.

**3.16.6** Researchers must list the work of all contributors who do not meet the criteria for authorship in an acknowledgements section. All funders and sponsors of research must be clearly acknowledged and any competing interests listed.

**3.16.7** Researchers must clearly acknowledge all sources used in their research and seek permission from any individuals if a significant amount of their work has been used in the publication.

**3.16.8** Researchers must adhere to any conditions set by funding or other bodies regarding the publication of their research and its findings in open access repositories within a set period.

**3.16.9** Researchers must declare any potential or actual conflicts of interest in relation to their research when reporting their findings at meetings or in publications.

**3.16.10** Researchers must be aware that submitting research reports to more than one potential publisher at any given time (i.e. duplicate submission) or publishing findings in more than one publication without disclosure and appropriate acknowledgement of any previous publications (i.e. duplicate publication) is unacceptable.

**3.16.11** Researchers who are discouraged from publishing and disseminating their research or its findings, or subjected to attempts to influence the presentation or interpretation of findings inappropriately, must discuss this



with their Principal Investigator or Supervisor so that the matter can be resolved.

### **3.17 Misconduct in research**

The University promotes an organisational culture in which high standards of personal conduct and integrity are expected, academic misconduct and fraud are forbidden, and appropriate steps are taken to deal fairly and firmly when misconduct is alleged or suspected.

The University has specifically identified research misconduct as a disciplinary offence under its general disciplinary procedures as they apply to staff and students, and it will act accordingly in respect of such misconduct under those procedures. Research misconduct which is misconduct arising in the course of research or its reporting includes but need not be limited to:

- a) Fabrication;
- b) Falsification;
- c) Misrepresentation of data and/or interests and/or involvement;
- d) Plagiarism; and
- e) Failures to follow accepted procedures or to exercise due care in carrying out responsibilities for
  - 1. avoiding unreasonable risk or harm to:
    - a. humans;
    - b. animals used in research; and
    - c. the environment; and
  - 2. the proper handling of privileged or private information on individuals collected during the research.

Research misconduct also includes any activity in research and/or scholarship and in its dissemination which brings the name of the University into disrepute.

Research misconduct is unacceptable and any researcher who suspects that such misconduct has taken place must report it. Any member of the University wishing to initiate disciplinary action on the grounds of research misconduct must consult [the University Secretary](#) in the first instance on the appropriate procedures in the circumstances of the particular case.

## 4.0 Recommended checklist for researchers

### Recommended checklist for researchers

The Checklist lists the key points of good practice in research for a research project and is applicable to all subject areas. More detailed guidance can be found in section 3. A PDF version is available from [www.ukrio.org](http://www.ukrio.org)

#### Before conducting your research, and bearing in mind that, subject to legal and ethical requirements, roles and contributions may change during the time span of the research:

- 1 Does the proposed research address pertinent question(s) and is it designed either to add to existing knowledge about the subject in question or to develop methods for research into it?
- 2 Is your research design appropriate for the question(s) being asked?
- 3 Will you have access to all necessary skills and resources to conduct the research?
- 4 Have you conducted a risk assessment to determine:
  - a whether there are any ethical issues and whether ethics review is required;
  - b the potential for risks to the organisation, the research, or the health, safety and well-being of researchers and research participants; and
  - c what legal requirements govern the research?
- 5 Will your research comply with all legal and ethical requirements and other applicable guidelines, including those from other organisations and/or countries if relevant?
- 6 Will your research comply with all requirements of legislation and good practice relating to health and safety?
- 7 Has your research undergone any necessary ethics review (see 4(a) above), especially if it involves animals, human participants, human material or personal data?
- 8 Will your research comply with any monitoring and audit requirements?
- 9 Are you in compliance with any contracts and financial guidelines relating to the project?
- 10 Have you reached an agreement relating to intellectual property, publication and authorship?
- 11 Have you reached an agreement relating to collaborative working, if applicable?
- 12 Have you agreed the roles of researchers and responsibilities for management and supervision?
- 13 Have all conflicts of interest relating to your research been identified, declared and addressed?
- 14 Are you aware of the guidance from all applicable organisations on misconduct in research?

#### When conducting your research:

- 1 Are you following the agreed research design for the project?
- 2 Have any changes to the agreed research design been reviewed and approved if applicable?
- 3 Are you following best practice for the collection, storage and management of data?
- 4 Are agreed roles and responsibilities for management and supervision being fulfilled?
- 5 Is your research complying with any monitoring and audit requirements?

#### When finishing your research:

- 1 Will your research and its findings be reported accurately, honestly and within a reasonable time frame?
- 2 Will all contributions to the research be acknowledged?
- 3 Are agreements relating to intellectual property, publication and authorship being complied with?
- 4 Will research data be retained in a secure and accessible form and for the required duration?
- 5 Will your research comply with all legal, ethical and contractual requirements?

## **Appendix – Acknowledgements and bibliography**

The University of Reading wishes to acknowledge the use of the following documents in the development of the Code of Practice in Research.

UK Research Integrity Office (2009). Code of Practice for Research: Promoting good practice and preventing misconduct. UKRIO. London.

Research Councils UK (2009). RCUK Policy and Code of Conduct on the Governance of Good Research Conduct: Integrity, Clarity and Good Management. RCUK. London.

Universities UK (2012). The concordat to support research integrity: draft for comment. Universities UK. London.

Department for Environment, Food and Rural Affairs (2012). Joint Code of Practice for Research (JCoPR). Defra. London.