UNIVERSITY COLLEGE CORK

Code of Good Conduct in Research

July 2007

1. Introduction

- 1.1 A central mission of the University is to promote excellence in the practice of research. In doing so it has a responsibility to ensure that all research carried out under its auspices is conducted to the highest standard achievable, in accordance with the law and public interest. This means that all of the University community involved in the research process should exhibit impeccable integrity and follow the principles of good research practice.
- 1.2 The University expects these standards to be adhered to by all staff and research students working within or on behalf of the University, whether they are employees of the University or not.
- 1.3 The University also expects these standards to be maintained by all individuals engaged on University business, in particular in the setting of research priorities and in the assessment of research.
- 1.4 This document addresses the issues involved in the proper conduct of research, and provides guidance on the standards expected. This cannot, however, be an exhaustive document and the Code of Good Conduct in Research is to be viewed as the minimum standard with which University staff and research students should comply. The lack of mention in this code of a particular act or omission should not be taken as conclusive on any question of professional conduct, should an enquiry arise.
- 1.5 The Code of Good Conduct in Research sets out general guidance, which may not always be directly applicable in certain instances to particular disciplines. The University expects all staff and research students to work within the spirit of the Code. If they have any doubt concerning the applicability of a particular section of the Code they should consult with their Head of College or with the Research Policy section of the Office of the Vice-President for Research Policy & Support.
- 1.6 The Code of Good Conduct in Research should also be read in conjunction with other documents. For some areas, the general principles are addressed here, but researchers should be familiar with any additional documents, such as those on Data Protection, intellectual property rights, and research ethics, which cover specific aspects of this code in more detail.
- 1.7 The Code of Conduct in Research applies to:
 - i. researchers (including academic staff, research assistants, research fellows and academic related staff) and other staff involved in the research process (including technical, clerical, academic related and administrative staff) employed by the University, whether involved in the research process within the University, or whilst at another institution;
 - ii. postgraduate students and their supervisors;
 - iii. any persons with honorary or adjunct positions involved in research within, or on behalf of, the University;
 - iv. collaborators and sub-contractors from other institutions, government bodies, industry, whether working within the University or not

The term researcher has been used for convenience throughout this Code of Conduct and can be taken to refer to any or all of the above categories, as is appropriate.

- 1.8 The University requires external collaborators, when working on joint research projects where a member of the University is the Principal Investigator, to either agree to be bound by this Code of Conduct, by signature of a form of agreement, or to be bound by their own Institution's Code of Conduct, which should be similar in all major respects to this Code of Conduct.
- 1.9 The Code of Good Conduct in Research may be supplemented or updated from time to time by additional guidance notes on specific areas.
- 1.10 Failure to comply with the Code of Good Conduct in Research may result in disciplinary action (see Section 23) and, if serious, dismissal or expulsion.

2. Principles of good research practice

- 2.1 The University cannot be prescriptive about individual approaches taken by researchers to solving particular research problems. However, in the conduct of all research, the University expects the following general principles to be understood and observed where appropriate.
- 2.2 Good research practice includes the following aspects:
 - maintaining open, honest and fair standards, including ready questioning of the researcher's own findings and proper attribution of the contribution made by others;
 - leadership, organization and cooperation in research, including appropriate supervision and mentoring of young researchers;
 - appropriate recording (including the storage of data) and reporting of research, allowing ready verification of the quality and integrity of the research data;
 - appropriate dissemination, application and exploitation of the fruits of research;
 - compliance with relevant regulations or policies, whether legal, institutional or other, which govern particular aspects of research;
 - participation only in work which conforms to accepted ethical standards and which ensures the safety of all those associated with the research;
 - participation only in work which the researcher is competent to perform;
 - avoidance of real or apparent conflicts of interest;
 - strict maintenance of the confidentiality of all those involved;
 - working within the laws and regulations as set out by statute or by the University.

3. Leadership and cooperation

- 3.1 It is the responsibility of the President, Senior Vice-Presidents, Vice-Presidents, Heads of College, Directors of Institutes, and other relevant senior managers, both academic and academic support, to ensure that an environment is created which allows research to be conducted in accordance with good research practice.
- 3.2 These individuals are responsible for establishing a research climate of mutual cooperation, in which researchers at all levels are encouraged to develop their skills and in which the open exchange of ideas is fostered.

- 3.3 A research community should be promoted and encouraged in which discrimination based on gender, race, age, disability, sexual orientation, religious affiliation, political or scientific viewpoint, ethnic or national origin does not occur.
- 3.4 Research misconduct is least likely to arise in an environment where good research practice (e.g. documentation of results, peer review of research, regular discussion and seminars) prevails and where there is adequate supervision at all relevant levels. It is a responsibility of Heads of Colleges, Schools, Institutes, Centres, Research Units, and Supervisors of researchers to promote, develop, encourage and implement the standards and protocols for research advanced in the University's Code of Good Conduct in Research amongst their staff and students, and to ensure that adherence to those standards is a matter of course.

4. Supervision and mentoring

- 4.1 It is the responsibility of established researchers, to nurture the appropriate intellectual, technical, ethical and career development of new staff, students and supervisees.
- 4.2 Supervisors are responsible for the overall progress of their students and research staff, and should follow good supervisory practice as laid out in the University's Guidelines for a Code of Practice for PhD Supervision and Guidelines for a Code of Practice for Masters by Research. They should also be familiar with the Irish Universities Quality Board's Guidelines on Good Practice on PhD Supervision and with the applicable sections of the University Calendar.
- 4.3 Researchers who are new to the research community may face particular difficulties. Responsibility for ensuring that students and other new researchers understand good research practice lies with all members of the community, but particularly with Heads of Schools, team leaders, grant holders and supervisors. Good practice should include mentoring young researchers in their new environment.
- 4.4 All new researchers should receive appropriate training, for example in research design, regulatory and ethics approvals and consents, equipment use, confidentiality, data management, record keeping, and data protection.

5. Integrity

- 5.1 Researchers should 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 experimental design, generating and analysing data, applying for funding, publishing results, grant and paper reviewing, and acknowledging the direct and indirect contribution of colleagues, collaborators and others
- 5.2 All individuals in the University's employment, or working within the University, or registered as undergraduate, postgraduate, or visiting students, must refrain from plagiarism, piracy, the fabrication of results or other forms of research misconduct. Failure to do so may result in disciplinary action (see Section 23).

6. Openness

6.1 While recognizing the need for researchers to protect their own research interests in the process of planning their research and obtaining their results, the University

encourages researchers to be as open as possible in discussing their work with other researchers and with the public.

6.2 Once results have been published, and where appropriate, the University encourages researchers to make available relevant data and materials to others, on request. This is, of course, provided that this is consistent with any ethics approvals and consents which cover the data and materials and any intellectual property rights in them.

7. Understanding laws, regulations and policies

- 7.1 Researchers are expected to be aware of and to observe the standards of research practice as published by the University, scientific and learned societies and other relevant professional bodies.
- 7.2 Researchers are expected to be aware of and stay informed of governmental, institutional and any other regulations, standards or policies in proposing, conducting and reporting research. This includes national and international (e.g. European Union) legislation.
- 7.3 In the case of any discrepancies arising where policies, regulations or contractual terms and conditions are unclear or appear to contradict one another, researchers should take active steps to resolve this.

8. Commitment to competency

- 8.1 Researchers are responsible for actively maintaining professional competency and remaining knowledgeable within their areas of expertise. To this end researchers should conduct their work within the scope of their own training and knowledge base.
- 8.2 Researchers should not claim any level of competence that they do not possess, and should take all reasonable steps to ensure that their qualifications, capabilities or views are not misrepresented by others. If this should occur they should take necessary steps to correct any such misrepresentation.
- 8.3 Researchers should also ensure that all persons who assist in the conduct of their research are adequately trained and perform their responsibilities competently.

9. Critical and impartial approach to results

9.1 Researchers should always be prepared to question the outcome of their research. While acknowledging the pressures - of time and resources - under which researchers often have to work, the University expects research results to be checked before being made public. It is important that ideas can be challenged and tested without loss of face. Equally, it is important that researchers or research groups should not become subject to such commercial pressures that the normal processes of academic inquiry cannot be enforced, e.g. by constraints imposed by the source of funding of the research.

10. Documenting results and storing primary data

10.1 Confidentiality of personal data relating to research participants, including data associated with tissue and biological samples, is essential and it is of paramount concern that this is protected. All personal information must therefore be encoded or made anonymous as far as is possible, and as early as possible after collection; ciphers should be held separately. Confidentiality is dealt with further below (see Section 20).

- 10.2 The researcher should clarify at the outset of the research programme any issues regarding the ownership of the data and samples used or created in the course of the research and also the results of the research. Any issues regarding ownership of these should be resolved before the research commences.
- 10.3 Throughout their work, researchers are required to keep clear and accurate records of the research procedures followed and of the results obtained, including interim results. This is necessary not only as a means of demonstrating proper research practice, but also in case questions are subsequently asked about either the conduct of the research or the results obtained. It also is important in the process of protecting intellectual property rights.
- 10.4 Laboratory notebooks should be kept, where appropriate, and each key document and any changes should be signed and dated.
- 10.5 Data generated in the course of research must be kept securely in paper or electronic form, as appropriate, and back-up records should always be kept for data stored on a computer. Data should be stored in such a way that permits a complete retrospective audit, if necessary, and records should be monitored regularly to ensure their completeness and accuracy.
- 10.6 The University expects such data to be securely held for a minimum period of seven years after the completion of a research project, in line with general audit requirements. There may, however, be specific requirements by the body funding the research to retain data for a longer period, for example several Research Councils require data to be retained for 10 years, or even longer for research based on clinical samples or relating to public health. It is the responsibility of the principal investigator to ensure that data retention meets with the requirements of the funding body in such cases.
- 10.7 If the researcher leaves the University, for whatever reason, before the required period of data retention expires, they have a responsibility to ensure that the data is securely held, either by themselves, or by the University if this is not possible.

11. Intellectual Property Rights and Ownership

- 11.1 Intellectual property rights (IPR) include patents, registered designs, copyright, design rights and know-how. Creative work, including research and development, can lead to intellectual property rights and some of these can be protected under one or more headings.
- 11.2 In patent law, the IPR created during an employee's normal or specifically assigned activities belongs to the employer. This means that most of the IPR arising from the activities of University teaching and research staff belongs to the University.
- 11.3 Where work is being carried out under contract from an outside organization, specific provisions about IPR may apply. For instance, the University may be requested to assign its rights to the sponsor, usually in exchange for some benefit.

12. Conduct of reviewers/referees

12.1 Peer review requires that the reviewer/referee be expert in the subject under review, but if a researcher considers themselves to be insufficiently expert in the area on which they have been asked to comment, they must make this clear, and would normally be expected to return the material unread.

- 12.2 A researcher asked to serve as a reviewer/referee should declare any possible conflict of interest, whether real or perceived, such as competitive, collaborative or other close relationship with one or more of the authors under review, or a close professional or commercial interest in the work. If there is any real or perceived conflict of interest, the researcher should normally not participate further in the review process, and should return the material unread.
- 12.3 All information made available to reviewers/referees must be treated in the strictest confidence, and they must not take advantage of any information obtained as a result of their role, e.g. either using ideas or material contained therein or presenting the information as their own. In particular they must not pirate unfunded grant applications or unpublished manuscripts (the latter including use of knowledge of a work before its publication, unless granted permission by the author(s), to further their own interests).

13. Conflict of Interest

13.1 It is the responsibility of researchers to identify and declare any conflicts of interest, whether legal, ethical, moral, financial, personal or other nature, so that it does not become a complicating or actionable issue.

14. Publishing results

- 14.1 Researchers should make all reasonable attempts to present their research to the academic community through peer-reviewed papers, books, presentations or other suitable media and, where appropriate, to the public. Research results of suitable quality should be published and/or made available in a form that is appropriate to the particular discipline concerned and the target audience. Where a study has involved research participants, they should normally be informed of the outcome of the study.
- 14.2 The person with overall responsibility for the research programme should authorize publication of results: authorization should cover both the content of the publication (integrity of results, adequacy of internal peer review, appropriate protection of intellectual property rights, appropriate authorship) and the intended place of publication.
- 14.3 When publishing, researchers should not misrepresent their work by omitting information that changes the meaning or significance of their findings.
- 14.4 Work should normally be published as a coherent entity rather than being artificially divided into a number of smaller parts. This does not necessarily preclude preliminary publication where appropriate, such as in Letter format, or presentation at conferences, but caution should be exercised that redundant or duplicate publication does not result.
- 14.5 Redundant or duplicate publication, which is a publication that overlaps substantially with one already published elsewhere (in print or electronic media), is not good practice and should be avoided. There may be exceptions to this, such as a publication of a complete report that follows the publication of a preliminary report, or a paper presented at a meeting but not published in full or that is being considered for publication in a proceedings or similar format. When submitting a manuscript, the author should always make a full statement to the editor about all submissions and previous reports that might be regarded as redundant or duplicate publication of the same or very similar work. The author should alert the editor if the work includes subjects about which a previous report has been published. Any such work should be

referred to and referenced in the new paper. Copies of such material should be included with the submitted paper to help the editor decide how to handle the matter.

- 14.6 Researchers are, however, encouraged to communicate their results to as wide an audience as possible. In this context secondary publication may be justified and can be beneficial. For example, publication in another language or publication of a more accessible and widely disseminated report, might be appropriate. In this situation, approval should be received from the editors of the publication outlets involved and the editor concerned with secondary publication must have a photocopy, reprint, or manuscript of the primary version.
- 14.7 As a general principle, research findings should not be reported in the public media before they have been reported to a research audience of experts in the field of research preferably by publication in a peer-reviewed journal or in an authored book, published by a reputable publisher, except where there is an alternative contractual arrangement.
- 14.8 More detailed guidance on the issues of redundant or secondary publication is usually available in the guidance to authors provided by academic journals or, for instance, in the 'Vancouver Guidelines' (ICMJE 1997) or by the University Research Ethics Board.
- 14.9 In the context of communicating academic information it is always good practice to use as clear and accurate language as possible, without recourse to unnecessary jargon. This is essential when communicating information to a lay audience.
- 14.10 The University supports the freedom to publish research findings. There may, however, be occasions when a legitimate request for deferral of publication is made. An example of this would be when collaborating with an industrial partner, who may wish publication to be deferred until adequate protection of any intellectual property has been arranged. The University would expect the period of deferral requested to be no longer than six months in most circumstances.
- 14.11 There may, however, be occasions when an external funder of research exerts pressure in an attempt to suppress results, for example to conceal results they perceive to be detrimental to their interests. In this situation the University will take whatever action it deems necessary to counter any attempt at suppression.
- 14.12 When negotiating contracts with external funders the right to publish the results of the study should be protected. It is the responsibility of the Office of the Vice-President for Research Policy & Support, on behalf of the University, and not that of the individual researcher, to ensure this has been adequately done.
- 14.13 The University itself places importance on appropriate protection of Intellectual Property (see item 11), and researchers should refrain from any form of publication or disclosure until it is clear that any necessary protection has been secured.

15. Accuracy of information

15.1 Researchers must ensure that all publication and presentation of material arising from research is correct and accurate. If it subsequently becomes clear that this is not the case, the researcher must take appropriate steps to correct the information, and if necessary make a retraction, in all outlets the information has appeared in. Where appropriate, funding or external agencies should also be informed.

16. Authorship

- 16.1 The issue of authorship is important in the context of good research practice. Although exact proscription of rules for authorship are difficult the University supports the general approach adopted by academic journals, for example by *Nature* or in the 'Vancouver Guidelines'. In line with this general guidance, the University expects that anyone listed as an author should have made a significant contribution to the work, accepts personal responsibility for ensuring that they are familiar with its content, and that they can identify their contributions to it. The practice of honorary authorship is unacceptable.
- 16.2 It is good practice to discuss authorship at the start of collaborative projects rather than on submission of the research to a journal or conference and that authorship of papers etc. should include all individuals who have made a significant contribution to the work.

17. Acknowledging the role of collaborators and other participants

In all aspects of research, the contributions of formal collaborators and all others who directly assist or indirectly support the research must be properly acknowledged, including the source of funding where appropriate. This applies to any circumstances in which statements about the research are made, including provision of information about the nature and process of the research, and in publishing the outcome. Failure to acknowledge the contributions of others is regarded as unprofessional conduct. Conversely, collaborators and other contributors carry their share of the responsibility for the research and its outcome.

18. Health and safety

Research should be conducted to the highest possible health and safety standards, both for the research participants, collaborators, and the general public. Research must adhere to current safety practices and legal requirements, and all researchers must be familiar with relevant University regulations, such as contained in the Staff Handbook and the University Calendar: General Regulations.

19. Ethical Practice

19.1 <u>Research involving human participants</u>

- 19.1.1 Approval from an appropriate research ethics committee must be sought for research which involves human participants, material or data. Approval from other regulatory bodies should be sought when necessary.
- 19.1.2 Researchers must ensure that research participants are sufficiently informed to give their consent to take part in the research, except where undertaking the research without consent is mandated by law or Governmental or institutional regulation or explicitly approved in the ethical application for the research. It is important that this information is given using language that the individual understands and sufficient opportunity is given to individuals to discuss and comprehend the risks and benefits of their participation. Whilst the form of consent may vary according to the capacity to consent; ii) have been provided with all information regarding the research that may affect their willingness to participate; iii) be aware that participation is voluntary and they may withdraw at any time; iv) understand that not participating or withdrawing will have no effect on their subsequent treatment; v) be asked to participate without undue pressure; and, vi) understand they may ask questions and receive answers regarding their participation. Informed consent is usually recorded in

writing, though other measures may be approved by the appropriate research ethics committee in exceptional circumstances.

- 19.1.3 In circumstances where the participant is legally incapable of providing consent or is a minor, the researchers should: i) explain the research and the participants' role and requirements; ii) seek the participants' agreement; iii) ensure the person's best interests are protected and iv) obtain consent from the participants' legal guardian. The research ethics committee will consider the justification for the participation of those who are incapable of giving consent and any alternatives that may be available.
- 19.1.4 Deception must not be used unless integral to the research and is considered by the Research Ethics Committee to be justified by a significant scientific or educational advance arising from the research. Alternatives to the use of deception should be considered and demonstrated to be ineffective. The use of deception to induce severe physical pain or emotional distress is not acceptable. Researchers should inform participants regarding their deception as soon as possible after their participants not the study and not later than at the conclusion of the data collection. Participants should be given the opportunity to withdraw their data.
- 19.1.5 Observational studies are sometimes conducted in naturalistic settings in which the 'participants' are unaware that an investigation is taking place. Unobtrusive observation raises significant ethical questions regarding informed consent and invasion of privacy. Before conducting unobtrusive observational studies it is essential to undertake an assessment of the extent to which human dignity may be jeopardised and that threat must be weighed against the value of the study.
- 19.1.6 Participants should not be offered undue financial or other inducements, over and above their expenses, to participate in a study. In particular, payments should not be used to induce them to risk harm beyond that which they risk without payment in their normal lifestyle.
- 19.1.7 Research which requires ethical approval must, in no circumstances, commence without this approval having been obtained, nor deviate from the agreed procedure.
- 19.2 <u>Human Organs and Tissue: use of post mortem material</u>
- 19.2.1 Research of whatever nature involving human organs, parts of organs, tissue, blocks and slides etc. (including body fluids, genetic material or other biological samples), whether obtained at post mortem or otherwise, must be approved by an appropriate Research Ethics Committee.
- 19.3 <u>Research involving animals</u>
- 19.3.1 Research involving animals should have approval through the appropriate Ethical Review Process, and the researcher involved should ensure appropriate Personal and Project licences are in place. The use of animals in research should conform to current laws and regulations.
- 19.3.2 Researchers should consider, at an early stage in the design of any research involving animals, the opportunities for reduction, replacement and refinement of animal involvement.

20. Confidentiality

- 20.1 Researchers must ensure the confidentiality of personal information relating to the participants in research, and that the research fulfils any related legal requirements under the Data Protection Acts 1988 and 2003 and any other relevant legislation.
- 20.2 Intrusion into the privacy of research participants should be kept to a minimum, to that necessary to fulfil the purposes of the research. It is recognized, however, that it is likely to be less intrusive to obtain all necessary data on one visit or interview than to make repeat visits or interviews to collect further data. Every attempt, therefore, should be made to collect sufficiently comprehensive data in a single visit or interview, where possible.

21. Integrity in managing research projects

- 21.1 Researchers should take all reasonable measures to ensure compliance with sponsor, institutional, legal, ethical and moral obligations in managing projects.
- 21.2 Researchers are expected to familiarize themselves with the terms and conditions of any research contract or agreement entered into by the University on their behalf.
- 21.3 Researchers should follow established University financial procedures, including procurement, and should practice economy in the use of resources.
- 21.4 The person with overall responsibility for a research programme should ensure that it runs within its allocated budget, and ensure that no penalties are incurred by failure to meet sponsor's requirements, for example submission of reports according to schedule.
- 21.5 The person with overall responsibility for a research programme should ensure that the stipends and salaries of research personnel are aligned with recognised pay scales appropriate for the posts.
- 21.5 In no case should any offer of bribery or inducement be accepted

22. Compliance with audit or other monitoring procedures

22.1 Researchers are expected to comply with any audit or monitoring procedures, whether external or internal, with which they may be asked to cooperate. Examples of such audit or monitoring may include examination of management of specific research projects, compliance with procedures, such as this Code of Conduct or with external sponsor requirements.

23. Research Misconduct

- 23.1 The University takes seriously any allegation of research misconduct. Any member of the University who believes that an act of research misconduct has occurred or is occurring should bring this to the notice of the University.
- 23.2 Allegations of research misconduct against students may be reported to the Registrar.
- 23.3 Allegations of research misconduct against staff may be reported to the Vice-President for Research or to the appropriate Line Manager. Allegations made to a Line Manager should be reported immediately to the Vice-President for Research.
- 23.4 All allegations or research misconduct will be dealt with under the University's staff and student discipline procedures.

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