Royal University of Bhutan

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Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

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OUR VISION

As a research inspired university, RUB will be known internationally as a catalyst for sustainable development, innovation, and creative enterprise that support and enhance the wellbeing and happiness of the people in the nation and those beyond. Through excellence in areas strategically relevant to Bhutan's development goals, trans-disciplinary engagement, high quality research trainings, and strategic partnerships, research at RUB will aim to generate social, economic, political, cultural, environmental and spiritual benefits to society.

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Abbreviations

AAC	Academic Appeals Committee
AB	Academic Board
AEC	Animal Ethics Committee
CAC	College Academic Committee
CoRRB	Council for RNR Research of Bhutan
CRC	College Research Committee
DRER	Department of Research and External Relations
DRIL	Dean of Research and Industrial Linkages
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
IAC	Institute Academic Committee
HREC	Human Research Ethics Board
IP	Intellectual Property
LR	Lead Researcher
MoAF	Ministry of Agriculture and Forests
MoH	Ministry of Health
MoU	Memorandum of Understanding
NBC	National Biodiversity Centre
OVC	Office of the Vice Chancellor
PI	Principal Investigator
PVC	Pro Vice Chancellor
RIC	Research and Innovation Committee
RDC	Research Degrees Committee
REBH	Research Ethics Board of Health
RESC	Research Ethics Sub-Committee
RGoB	Royal Government of Bhutan
RUB	Royal University of Bhutan
TK	Traditional Knowledge
TRP	Tangible Research Property
UC	University Council
VC	Vice Chancellor
WAL	Wheel of Academic Law

Contents

1 Overview

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1.1. Purpose

1.1.1. ZHIB 'TSHOL: RUB Research Policies is the primary reference regarding research for members of the University (administrators, faculty, staff, and students) as well as affiliates and anyone involved in research with the University, or using University resources. Research means a systematic inquiry, including research development, testing, analysis, and evaluation, designed to develop or contribute to generalizable knowledge by describing, explaining, interpreting, predicting or posing new questions about a phenomenon under study. Activities which meet this definition constitute research for purposes of this policy.

1.1.2. The policies define the official policies, procedures, and structures of the University governing all aspects of research. These policies apply to the University and its various bodies including the Office of the Vice Chancellor and the colleges, and in any circumstances where the University's name is used.

1.1.3. Beyond being a policy document, the handbook also aims to inform and educate readers about the process and conduct of research, and is meant to be a useful guide that supports researchers in the University.

1.1.4. The policies seek to encourage and enable collaboration amongst University member Colleges with the wider research and academic world.

1.2. Objectives and Expectations of Research at the University

1.2.1. A key objective of the Royal University of Bhutan is "to promote and conduct research, to contribute to the creation of knowledge in an international context and to promote the transfer of knowledge of relevance to Bhutan" (Article 2.2 of The Royal Charter, RUB, 2003, p. 3)

1.2.2. Research and innovation in the Royal University of Bhutan shall be carried out with the aim to make its outcomes relevant and beneficial to contemporary problems and issues and where possible, shall beneficially impact communities in the country and beyond. According to the Tertiary Education Policy of the Kingdom of Bhutan (2010, p. 16), "A strategic objective for Bhutan shall be to increase research, innovation and the use of new knowledge in all aspects of the country's work; to improve the system for the dissemination of information and the provision of relevant information to persons in need of that information; and to develop a culture of enquiry and investigation in the society". The University shall actively seek out avenues to contribute to national policies and concerns, and aim to disseminate research findings to individuals, agencies, and sectors of relevance to those findings.

Research that does not have the potential to benefit the community or have direct impact on policy or practice will normally receive low priority for funding.

1.2.3. Research quality – The University expects all of its researchers to uphold the highest possible standards of integrity and commitment to excellence, including the highest professional and ethical standards. The same level of commitment to excellence is expected of faculty, staff, and students.

1.2.4. Faculty research – Faculty are generally expected to be research-active and take on research roles as part of their academic duty, commensurate with their level of research training, experience and seniority. The University makes recognition of research accomplishments an integral part of its performance evaluation mechanisms for faculty.

1.2.5. Student research – The University shall encourage a culture of enquiry and innovation among the students and foster a culture in which research as an intellectual endeavour is not only encouraged but promoted as an integral part of the College's academic programmes. Students at all levels are encouraged to participate in research activities. Involvement of students in research shall be a mechanism to help develop a culture of enquiry and investigation in the society. The expectation for undergraduate (honours)/ Masters/PhD research is that it meets international standards.

1.2.6. Collaborations – Joint research that promotes capacity building and exchange of ideas, both within the University and with external partners (those within and outside Bhutan), is strongly encouraged.

1.2.7. Inclusiveness – University researchers shall recognize the importance of capacity-building through mentoring and training, promoting cooperation and collegiality, and interfacing with their communities, in the spirit of sharing the benefits of the research process and its outcomes as broadly as possible.

1.3. Alignment with Other Policies, Rules and Regulations

1.3.1. The policies outlined herein shall supersede all research policies previously approved by the Academic Board.

1.3.2. These policies shall not supersede any existing policies set by the University Council or Academic Board unless explicitly stated as such and approved.

1.3.3. These policies shall not supersede any laws, policies, or regulations set by the RGoB or other lawfully appointed agencies in the country.

2 Research Administration

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2.1 Purpose

Research at the University occurs within the context of numerous administrative structures serving a variety of purposes such as governance and management, setting and enforcement of standards, ensuring quality, and providing support to researchers. The University's highest body is the University Council, which delegates executive management of the University to the Vice Chancellor and all academic matters, including research, to the Academic Board, which comprises several committees responsible for its different functions. The Department of Research and External Relations at the Office of the Vice Chancellor provides the linkage between the Academic Board's policies and the research activities occurring at individual Colleges. Within Colleges, research is managed by Directors, Deans of Research and Industrial Linkages, and Research Centre Coordinators with the approval and monitoring of College Research Committees.

2.2 University Council

2.2.1 The University Council is the supreme governing body of the Royal University of Bhutan, subject to the provision of the Royal Charter (Statutes of the Royal University of Bhutan, Article 3). The University Council determines the educational character of the University, lays down policies and provides directions and support for efficient functioning of the University, and approves the work plan, budget estimates and these accounts for the University on an annual basis. The University Council delegates the management of the University to the Vice Chancellor, and the academic authority to the Academic Board.

2.3 Academic Board

2.3.1 The Academic Board is the primary academic authority of the University responsible for academic affairs, including academic standards, research, scholarship, teaching and courses at the University. (Statutes of the Royal University of Bhutan, Article 6). The primary functions that fall within the remit of the Academic Board include the following: determining the award structure of the University, programmes and quality, library and IT provision within the University, assessment and examinations, admission and registration of students, resources and planning, student support systems, programme operation and management, research, research degrees, and scholarships. The Academic Board appoints members to several committees relevant to research degrees, including the Academic Planning and Resources Committee, the Research and Innovations Committee, the Research Degrees Committee, and the Academic Appeals Committee. Each Institute/College Academic Committee and Programme Board of Examiners reports to the Academic Board.

2.4 Academic Planning and Resources Committee

2.4.1 The purpose of the APRC is to review and integrate academic and resource planning in support of the University's objectives. It brings together the Vice-Chancellor's responsibilities for the management of the University's resources for which he/she is responsible to the University Council, and the responsibility of the Academic Board for the academic functions of the University. The Committee considers and acts upon the proposals for the allocation of resources. It prepares the University's Strategic Plan and the Annual Corporate Plan derived from it, and exercises delegated powers on behalf of the Academic Board in this matter. Insofar as resources are concerned, all the Committees of the Academic Board, including those related to research, are subject to the guidance of this Committee.

2.5 Research and Innovation Committee

2.5.1 Purpose and Function - The Research and Innovation Committee promotes research and innovation within the University and its associated professions. It will:

2.5.1.1 Formulate, for approval by the Academic Board, policies to promote research and innovation in the University; taking account of external research policy developments by the RGoB and other funders and also ensure implementation in accordance with the policy.

2.5.1.2 Identify sources of funding for research within the University.

2.5.1.3 Advise on the establishment of links with other universities and research bodies.

2.5.1.4 Make proposals for the allocation of funds in support of University research.

2.5.1.5 Monitor the quality of research within the University.

2.5.1.6 Develop and ensure the maintenance of ethical standards in University research, and review on a regular basis, the University's Guidelines on research ethics.

2.5.1.7 Provide support towards dissemination of research findings.

2.5.2 Membership

2.5.2.1 Chair: Pro Vice Chancellor for Academic Affairs or such other person as is appointed by the Academic Board

2.5.2.2 Members:

2.5.2.2.1 Vice Chancellor

2.5.2.2.2 Director of Research and External Relations (Member Secretary)

2.5.2.2.3 One member appointed by and from the Academic Board

2.5.2.2.4 Five members appointed by the Academic Board [These shall be members of staff with experience in conducting research, preferably staff with a reputable research publication record]

2.5.2.2.5 Four external members appointed by the Academic Board from outside the University, with experience of conducting research, and preferably of gaining research funding

2.5.2.2.6 A representative of Libraries [to be rotated among the colleges]

2.5.2.2.7 Two research students [They should, at the time of appointment, be engaged in research at the undergraduate honours, Master's or PhD level, and are able to effectively represent the views of RUB students concerning research and inquiry]

2.5.3 The terms of reference, constitution, procedures, and conduct of business of RIC shall be according to the Standing Orders applicable to the Standing Committees of the Academic Board (see WAL, 2008, Sections 16.1 and 16.2).

2.6 Research Degrees Committee

2.6.1 Purpose and Function – The Committee serves to ensure the standards and quality of the registration, progress and examination of students registered for research degrees. The Committee is responsible for the implementation and development of all academic quality assurance systems governing the registration, monitoring and examination of research degrees. In particular the Committee shall:

2.6.1.1 Set policies and standards with respect to research degrees, and maintain them in the Research Degrees Framework along with accompanying Procedures.

2.6.1.2 Monitor all aspects of research degrees.

2.6.1.3 Approve nominations of examiners submitted by the individual Colleges and make recommendations to the Academic Board.

2.6.2 Membership

2.6.2.1 Chair: Pro Vice Chancellor for Academic Affairs or such other person as is appointed by the Academic Board

2.6.2.2 Members: [Members should have demonstrated ability to contribute to the research degree awarding process and will normally have experience of research degree supervision and examining.]

2.6.2.2.1 Director of Research

2.6.2.2.2 One member appointed by and from the Academic Board

2.6.2.2.3 Four members appointed by the Academic Board. [These shall be members of faculty with experience in supervising research students, preferably to completion.]

2.6.2.2.4 Two external members appointed by the Academic Board from outside of the University, with experience of supervising research students

2.6.2.2.5 One research student [This requirement is deferred, and may be reinstituted in the future].

2.6.3 The terms of reference, constitution, procedures, and conduct of business of RDC shall be according to the Standing Orders applicable to the Sanding Committees of the Academic Board (see WAL, 2008, Sections 16.1 and 16.2).

2.7 Academic Appeals Committee

2.7.1 The appeals committee acts to make independent considerations of student's progress upon request for reconsideration of results or decisions made by a Board of Examiners.

2.7.2 Where research degrees are concerned, appeals related to academic/coursework components are considered by the Academic Appeals Committee.

2.7.3 Appeals related to research matters are handled by the structures detailed in this Handbook (see sections 7.2.4 and 12.4.2).

2.8 Office of the Vice Chancellor

2.8.1 Vice Chancellor – As per the Royal Charter (Statutes of the Royal University of Bhutan, Article 4), The VC is the Executive Head of the University, responsible for the organization, management, and discipline of the University, subject to the general control and direction of the University Council. In terms of research, the VC provides strategic direction to the University and encourages the development of a vibrant research environment. The VC also explores new avenues for enhancement of research at the University and supports the establishment of external research linkages.

2.8.2 Pro Vice Chancellor (Planning and Research) – In relation to research and innovation, the PVC may provide guidance towards the University's research mission and support the enhancement of research activities at the University. The PVC supports the VC in his/her roles with respect to research and innovation. The PVC also serves on the Academic Board and the APRC, as well as chairing the RIC or the RDC.

2.8.3 Department of Research and External Relations (DRER) – The DRER at the OVC is responsible for coordinating and consolidating research activities within the University. Headed by the Director for Research and External Relations, the Department serves as the Secretariat for the RIC and the RDC, identifying research needs at the University and initiating appropriate means for addressing them. In doing so, the Department receives support from various research committees, centres and individuals. DRER and the committees are also responsible for developing and implementing research policies, guidelines, procedures, and infrastructure for research. The Department provides the stimulus for and facilitates research across the University, for example, by exploring funding opportunities, by facilitating dissemination and publication of quality research findings, and by promoting capacity building and networking across the University. The DRER also promotes and facilitates inter-institutional linkages at the University and College levels. DRER further looks after the functioning of CRCs, research centres, and research degrees through its Research Services division. The Department also maintains centralized records about research activities at the University.

2.9 Institute/College Academic Committee

2.9.1 As per the Wheel of Academic Law (WAL, A7.6.1.2), "The purpose of the Committee is to serve as the guarantor of academic standards and quality in respect of the design, delivery, development

and promotion of best practice in curricula, programmes, general educational matters and research within the Institute."

2.9.2 The Institute/College Academic Committee [IAC/CAC] shall foster research in the areas for which the Institute has a direct interest, amongst the staff of the Institute and in conjunction with staff from other Institutes and outside the University.

2.9.2.1 In doing this, the IAC shall maintain a broad and general role in promoting research rather than any specific administrative or managerial function, except for oversight. Since the IAC is, in principle, the Academic Board of the University acting in the Institute, this means ensuring that due consideration is given to research activities in the college during any of its meetings.

2.9.2.2 In its oversight function, the IAC shall approve policies put forth by the CRC to promote research and innovation in the College, taking into account University and external research policy developments by the RGoB and other funders and also ensure implementation in accordance to the policy.

2.10 College Research Committee

2.10.1 Background

2.10.1.1 The University recognizes that with its decentralized structure, the best way to promote a strong research culture and vibrant research environment is to maintain an empowered organizing presence for research at its Colleges. Therefore, in addition to a DRIL, each college shall have a College Research Committee.

2.10.2 Purpose

2.10.2.1 The CRC is the primary body at the College level for all aspects of research conducted at the College, including the promotion, approval, and monitoring of research.

2.10.2.2 The CRC shall promote research and innovation within the College and its associated professions in line with overall University and RGoB research goals and objectives.

2.10.3 Functions – The CRC will:

2.10.3.1 Formulate, for approval by Institute/College Academic Committee, policies to promote research and innovation in the College, taking into account University and external research policy developments by the RGoB and other funders and also ensure implementation in accordance to the policy.

2.10.3.2 Identify sources of funding and develop grants for conducting research within the College.

2.10.3.3 Advise and initiate establishment of links with other universities and research bodies.

2.10.3.4 Make proposals for allocation of funds in support of College research (see Section 2.12 and Section 14.4).

2.10.3.5 Maintain a record of research activities in the College and disseminate information regarding this every six months or annually.

2.10.3.6 Monitor the quality of all aspects of College research activity.

2.10.3.7 Ensure the maintenance of ethical standards of College research. CRCs shall determine the ethical propriety of such research projects as are submitted to it and provide advice to researchers and supervisors on the ethical propriety of their research.

2.10.3.7.1 Until such time as a separate body is deemed necessary, the CRC shall serve as the Human Research Ethics Board on all matters related to human subjects research.

2.10.3.7.2 Until such time as a separate body is deemed necessary, the CRC shall serve as the Animal Ethics Committee on all matters related to animal research.

2.10.3.8 Review and accord approval and recommendation to the research proposals submitted to it by faculty, students, and researchers associated to the College.

2.10.4 Membership

2.10.4.1 Chair – Dean of Research and Industrial Linkages (as the head of research in the College), or in exceptional circumstances, a senior faculty [with considerable research experience, including higher degree research supervision or management of research in taught programmes] nominated by the DRIL or Director.

2.10.4.2 Other members – As per the requirements of the college

2.10.4.2.1 There should be at least five members, in addition to the Chair, in order to constitute a CRC. This minimum five-person committee of qualified individuals should be members of the faculty with demonstrated knowledge of research and ability to provide strategic advice to the CRC for development of research. If a CRC cannot be formed at a college but faculty members still wish to engage in research, the College/Institute may form a CRC through appointment of external members with knowledge and experience of research from another college and who represent cognate disciplines (see 2.10.4.2.3).

2.10.4.2.2 The DRIL should be a member, if not the Chair of the committee.

2.10.4.2.3 Other than the Chair, members may be from outside the College if such expertise as needed cannot be found within the College. These "external" CRC members should still be able to participate regularly in CRC meetings and business.

2.10.4.2.4 Members, including the Chair, are appointed by the head of the College upon endorsement by the CAC/IAC.

2.10.4.2.5 Members (including the Chair if necessary) should refrain themselves from any deliberations in which they have a personal stake (e.g. approval, monitoring, or review of their own proposal, funding decisions, misconduct hearings, etc.). If this leaves the CRC with fewer members than required for a quorum to meet for those deliberations, the business cannot continue. In such instances, the committee may temporarily depute relevant members of the faculty to continue its business as necessary.

2.10.4.2.6 The primary qualification for membership to a CRC is research experience. This means:

2.10.4.2.6.1 Demonstrated knowledge and experience of teaching and quality research and the ability to provide strategic advice to the CRC for development of research in the College.

2.10.4.2.6.2 Authorship in peer-reviewed publications as the first author, corresponding (or supervising author), or in some other fashion as the principal investigator.

2.10.4.2.6.3 Evidence of securing external research grants and successful execution of the projects, and subsequent publications in peer-reviewed journals.

2.10.4.2.6.4 Evidence of successful reviews of grant applications and journal articles.

2.10.4.2.6.5 Experience of supervision (to completion) of research dissertations or projects at the undergraduate honours, Master's or PhD levels.

2.10.5 Operations

2.10.5.1 The precise functioning of individual CRCs may be self-determined as per the needs of the college, subject to all the requirements outlined in this Handbook. CRCs must have Terms of Reference that replicate the above sections (2.10) as well as outline their own mechanisms of operation. Minimum guidelines are given here.

2.10.5.2 During regular academic terms, CRCs shall meet a minimum of once per month if any agenda exist that would call for a meeting. A CRC in a College with a more active research should consider meeting as frequently as once a week to ensure that no business remains pending too long, such as approval of research proposals. Some CRC business may be conducted remotely by members as appropriate.

2.10.5.2.1 The Committee shall report bi-annually to DRIL on research activities within the College, who shall incorporate the information into his/her reports to the IAC, to be forwarded thereon to the RIC.

2.10.5.3 When necessary, the CRC should advise programme committees, HR, Finance, and Research Centre Coordinators regarding research policies and procedures, performance, and compliance issues with the responsible conduct of research within the College.

2.11 College Director

2.11.1 Each College Director is a key promoter of research activities at a College, ensuring the smooth functioning of the various structures and bodies detailed here.

2.11.2 One major function of a Director with regard to research is supporting research through the promotion of external linkages and securing research funding.

2.12 College Dean of Research and Industrial Linkages

2.12.1 Purpose

2.12.1.1 DRIL serves as the central driving force behind research activities at the College. DRIL is the focal person for all research guidance, support and administration functions at a College, including quality assurance, monitoring, and reporting. The DRIL has oversight of CRCs, research centres, and faculty research. He/She also facilitates the proper conduct of student research, including the research components of research degree programs.

2.12.2 Roles and Responsibilities related to Research

The Dean of Research and Industrial Linkages shall play a pivotal role in advancing the research vision of the College through research initiatives and programmes that lead to the generation of empirical knowledge or paradigm-changing ideas of value to the community, the country, and the wider world. Specifically, the DRIL shall:

2.12.2.1.1 Develop research policies, procedures and standards for the College in light of the University's research policies.

2.12.2.1.2 Identify research priorities and opportunities for the College.

2.12.2.1.3 Develop research capacity and capabilities of the College through periodic professional development programmes, research training and mentoring programmes.

2.12.2.1.4 Initiate and support strategies that integrate research knowledge into curricula and teaching aimed to enhance the quality of student learning in the College.

2.12.2.1.5 Serve in College Research Committees and provide oversight for the conduct of quality research in the College.

2.12.2.1.6 Facilitate the development and implementation of higher degree research programmes (e.g. Research Master's and PhD) in the College.

2.12.2.1.7 Develop procedures to monitor the quality of research components of taught programmes if those components are significant and require supervision for successful completion.

2.12.2.1.8 Enhance research among undergraduate students.

2.12.2.1.9 Develop research infrastructure and facilities that support research and innovation in the College.

2.12.2.1.10 Develop plans and budget proposals for College research and innovation activities.

2.12.2.1.11 Facilitate access to both internal and external sources of research fund for the faculty and the research centre(s).

2.12.2.1.12 Establish relationship with industry and represent the college for any matters related to research, innovation, services and industrial linkages.

2.12.2.1.13 Seek opportunities for research and consultancy in business, industry, government and international organizations.

2.12.2.1.14 Report annually to the IAC/CAC for onward submission to the RIC on all matters related to research in the college, including the programmes and activities of the Research Centres/Institutes.

2.13 Research Centre Coordinator

2.13.1 The Coordinator of a Centre for Research and Industrial Linkage is a faculty member from within the University, is responsible for all matters concerning the centre, subject to the specific requirements set forth in Chapter 17 on Research Centres. The Coordinator reports to the DRIL.

2.13.2 At colleges that enlist any "coordinator" on specific project-wise basis, whether affiliated with a centre or not, the Project Coordinator shall report to the DRIL.

2.14 Other Administrative Staff

2.14.1 Finance personnel – All finance/accounts staff in the University (at OVC and within Colleges) are responsible for ensuring compliance with the University's Financial Rules and Regulations as well as the policies herein regarding financial matters.

2.14.2 HR managers – All HR staff in the University (at OVC and within Colleges) are responsible for ensuring compliance with the University's HR policies as well as the policies herein regarding personnel matters.

3 Roles and Responsibilities

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3.1 Purpose

The research landscape at the University aims to be as conducive as possible for all researchers to carry out their activities. However, there are numerous laws, regulations, and policies that may be applicable to researchers. In addition, there are resources available to enable and support research. In navigating these various components of the research infrastructure at the University, the first starting point for researchers is a consideration of their general roles and responsibilities, whether they are faculty, associates, students, or any administrative staff that may be involved in some part of the research process.

3.2 Faculty and Principal Investigators

3.2.1 University faculty are the primary research personnel in the University. As members of the premier institute of higher learning in Bhutan, they shall be encouraged to engage in research. Faculty may take the role of Lead Researcher/Principal Investigator (PI) or research team member.

3.2.2 A member of the faculty conducting research at the University as PI has an obligation to the institution, to granting agencies, and to the public at large to carry out his/her work with the highest possible standards of integrity and commitment to excellence. PIs should ensure their work and the work of their staff always are conducted with the following fundamental principles in mind. In every research proposal, the PI should be clearly indicated.

3.2.3 General responsibilities – Faculty shall ensure that:

3.2.3.1 Their regular teaching duties and other responsibilities associated with teaching/learning are fulfilled. Engaging in research shall not be in contravention of the College's teaching hour policy or at the cost of his/her students' progress in studies. However, the colleges shall promote research by adjusting teaching hours where applicable.

3.2.3.2 They shall undertake any research and research-related services only upon approval of the College Research Committee (CRC), generally requiring submission of a research proposal.

3.2.3.3 The highest ethical standards shall be consistently understood and applied.

3.2.3.4 All research shall comply with applicable laws.

3.2.3.5 University and College policies related to their research are well understood and followed, including all conduct guidelines.

3.2.3.6 All research is conducted using established protocols concerning the planning, execution and dissemination stages of the research.

3.2.3.7 Research information management and reporting are accurate and meticulous.

3.2.3.8 Practices and processes to apply for grants, develop budgets, submit proposals, track financial transactions, and report expenditures as required by the University and the

research sponsor are handled in a timely and accurate manner and in compliance with all established terms and conditions.

3.2.3.9 All relevant assurances and obligations are fulfilled. Most research plans require a collection of certifications, assurances, and obligations that must be documented and submitted with proposal applications. It is the responsibility of the Principal Investigator to ensure compliance with these. Obligations are related to the management of funds and accounting practices. Some assurances are fairly broad and well known, such as prohibitions against discrimination in hiring and political activities, confidentiality of research information, especially as it relates to human subjects, and management of intellectual property. Others may be specific to certain types of studies being done, for example environmental clearances.

3.2.4 Mentoring and training

3.2.4.1 The role of faculty to actively and effectively mentor the development of young researchers is critical. The University considers this a duty of any faculty serving as PIs. Whenever possible, senior faculty members should seek to engage junior faculty members and students in research, typically as team members and research assistants.

3.2.4.2 Faculty should ensure that researchers under their guidance get proper training in laboratory techniques, safety of research/work environment, animal and human subjects protection, the responsible conduct of research, and other appropriate topics specific to their work.

3.3 Research Associates and Postdoctoral Fellows

3.3.1 University faculty whose primary activities are research rather than teaching maybe engaged in projects either as Principal Investigators (in which case all the above guidelines are applicable except for the teaching requirement) or aligned with full-time teaching faculty who are serving as the Principal Investigators, in which the following points are applicable.

3.3.2 General responsibilities – In their research, either independent or in support of a PI, Associates and Fellows have the responsibility and obligation to help the PI ensure that:

3.3.2.1 They understand and apply the highest ethical standards that apply to their discipline.

3.3.2.2 All research complies with any applicable laws.

3.3.2.3 They understand and follow University and College policies related to their research, including all conduct guidelines.

3.3.2.4 They are trained properly in laboratory techniques, environmental safety, protection of animal and human research subjects, responsible conduct of research, and other topics as appropriate.

3.3.2.5 Practices and processes to apply for grants, develop budgets, submit proposals, track financial transactions, and report expenditures as required by the University and the research sponsor are handled in a timely and accurate manner and in compliance with all established terms and conditions.

3.4 Students

3.4.1 Students at all levels (PhD candidate, Research Master's candidate, Undergraduate, including those enrolled in Diploma programmes) are encouraged to participate in research at the University within the scope of their academic respective programmes.

3.4.1.1 PhD students are expected to work within a supervised framework, but on original topics resulting in a high degree of expertise in a specific field. Their efforts would be primarily geared towards research and academic activities which support research.

3.4.1.2 Masters students conducting research as part of their course requirements are expected to work closely with supervisors and within the parameters of their academic programme requirements.

3.4.1.3 Undergraduate students, including those studying diploma programmes, should avail opportunities to join faculty research programmes as research assistants. In cases where the research project is not independent of the faculty research programme, the student's research engagement may not need a separate proposal. Some taught undergraduate programmes, however, may have substantial research elements that may require the production of a dissertation or project report, which may also have the potential for publishing research articles in peer-reviewed journals. Although supervised by the faculty, students should be encouraged to publish as principal author.

3.4.1.3.1 To work with University faculty, students should begin by learning about the faculty's research specializations and current projects. If students follow up with contacting a faculty member about the possibility of working on a project related to his/her research, they should be sure to include information about courses they have taken that could support their contribution to the research and any other relevant experience. There is no predetermined number of students that faculty have to take as research assistants, but most will be interested to maintain active research programmes involving students.

3.4.1.3.2 In certain cases, an undergraduate student may have his/her own ideas about a research project and then seek out a faculty member as a supervisor.

3.4.1.3.3 Students should think about strategy before deciding to pursue a research interest: which opportunities are best suited for them, how conducting research will affect

their other obligations – especially academic coursework – and the appropriate timing of research activities as they relate to their pursuit of a degree.

3.4.1.3.4 At this time, academic credit for extracurricular research work is not a part of the University framework and students should understand that such work is done on a voluntary basis. In some cases, financial compensation may be given from budget specific to that purpose as part of a research grant, but this is not guaranteed.

3.4.2 All undergraduates and graduate students are expected to become familiar with their discipline's ethical standards and to conduct their research activities with the highest level of integrity and commitment to excellence.

3.4.3 Students are encouraged to ask questions about proper practices and procedures, and expected to have organized all of their research activities, to get safety and ethics training early on, and to follow the directions of their faculty mentors and other research staff closely.

3.4.4 Students should be sure to discuss the full terms of their engagement on a PI's research team prior to commencing work, including: work expectations and outputs, level of intellectual vs. labour contribution to the project, and acknowledgement and credit for work done including potential authorship on publications.

3.5 Research Administrators

3.5.1 Any personnel involved in the administration of research at the University (covered in Section 2, as well as Finance staff and office support staff that may be involved with research in some way) are responsible for supporting the conduct of research in line with this policy document and with the University's research vision.

3.5.2 General responsibilities – Research administrators have the responsibility and obligation to help PIs ensure that:

3.5.2.1 They understand and apply the highest ethical standards that apply to their discipline.

3.5.2.2 All research complies with any applicable laws.

3.5.2.3 They understand and follow University and College policies related to their research, including all ethics and conduct guidelines.

3.5.2.4 All researchers are trained properly in laboratory techniques, environmental safety, protection of animal and human research subjects, responsible conduct of research, and other topics as appropriate.

3.5.2.5 Practices and processes to apply for grants, develop budgets, submit proposals, track financial transactions, and report expenditures as required by the University and the research sponsor are handled in a timely and accurate manner and in compliance with all established terms and conditions.

4 Research Planning, Approval and Monitoring

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

4.1 Purpose

The University affirms the discretion of its scholars to choose the topics of their own research, to formulate their own hypotheses, to present their own conclusions based on sound practices, and to express their own views about the implications of their work. In general, researchers at the University shall enjoy the protections of academic freedom, based on the free and open exchange of ideas and the results of scholarly activities. Correspondingly, researchers are expected to conduct their work in a manner befitting a member of the University Community and reflective of the highest standards of research and scholarship. Researchers must help foster the atmosphere of academic freedom by promoting free, open, and timely exchange of information about their research activities with the University's research management structures. As all research carried out by University members and affiliates, or using any University resources, is implicitly backed by the University and reflects on its reputation. The University shall provide strategic guidance for the overall research direction in the Colleges, and require approval of individual research project proposals to ensure compliance with its research policies and procedures and alignment generally with the development priorities of the nation and of the wider world. Faculty and student engagement in research must lead to the enhancement of the quality of curricula, teaching and learning in the Colleges. Researchers shall be trained and supported in maintaining such compliance. Ultimately, the University does not necessarily claim the views expressed in any research outputs, or by its researchers in any medium, as its own.

4.2 Research Priority Areas

4.2.1 RIC and individual Colleges are responsible for identifying priority areas, in-line with University and National research goals as stated in this document, and which may further be communicated from RIC from time to time.

4.2.2 Criteria for developing research agendas

4.2.2.1 Generation of new knowledge – Possibility of generating new knowledge or innovation.

4.2.2.2 Relevance – Relevance of the research to the programmes, departments or the college.

4.2.2.3 Need – The need for such research from the local, national and international perspectives. The Colleges, based on their specific disciplines and areas of specialization, may develop their own methods of ranking the needs.

4.2.2.4 Capacity and Feasibility – Capacity to conduct research by the college and its faculty, including expertise, facilities and resources, and funding. The research agenda should address the viability of potential research ideas in the context of the college's existing resources, facilities, and faculty capability.

4.2.2.5 Impact – The possible impact of the research on policy making and to the local, national and international communities.

4.2.3 Mechanisms for how research priority areas would be promoted are left to DRILs, CRCs, and Research Centre Coordinators. Earmarking funding for particular areas is one option.

4.3 Research Approval

4.3.1 Requirement for approval

4.3.1.1 The purpose of the research approval process is not to impinge on any researcher's academic freedom, but rather to ensure compliance with the University's research policies, standards and procedures and support researchers in maintaining such compliance.

4.3.1.2 Application for research that is specifically affiliated with a College (i.e. carried out by its faculty, students, or associates) shall seek the approval of the College/Institute Research Committee.

4.3.1.3 Application for research that is not specifically affiliated with any College (for example, work carried out directly through the OVC or primarily by a non-University collaborator) may be processed through DRER, and reviewed by a committee selected by DRER, which may be a CRC deemed appropriate for the job.

4.3.1.4 All research carried out by University members and affiliates (faculty, associates, students, staff, collaborators), or using any University resources, is implicitly backed by the University and reflects on its reputation, and as such, may be carried out only after approval of designated University bodies. In general, any work done as a systematic investigation with the aim of creating generalizable knowledge is considered "research" and is subject to approval. Approval is required regardless of whether the project is funded through the college, through the University, through an external source, self-funded, or carried out with no specific input of funds. Moreover, submitting a research proposal is generally considered good practice for any research project, and serves additionally to provide supporting documentation in recognition of a University member's involvement in research activities. Any funded research must have a proposal on file with a CRC.

4.3.1.5 All research carried out by University members and affiliates (faculty, associates, staff, collaborators) must generally contribute to the academic development and professional growth of the researcher(s). Members of the University or visiting faculty teaching in RUB Colleges shall ensure that their research engagement does not conflict with their students' need for quality learning. Hence, faculty engaged in research shall ensure that her/his face-to-face teaching hours are met through effective arrangements approved by the Head of Department/School or the Dean of Academic Affairs.

4.3.1.6 Some work may not require formal approval (see below). However, if there is any doubt whether a work qualifies for an exemption, the researcher is encouraged to check with the head of the CRC to get written confirmation of this status.

4.3.1.7 Exceptions –Some work involving data collection and analysis may not be defined as research, for example ad-hoc feedback or evaluations of a workshop or symposium, or feedback surveys on employee or student experiences within a college (institutional research), if the goal is to understand the impact of the organization's practices or policies

to identify areas for improvement. This does not require prior approval. Other work may be research but involves only analysis of publically available data or analysis of ancient records (not information about living individuals). This may not seem to require approval but researchers are cautioned not to assume an exemption and submission of a proposal is recommended. Specific categories of work exempt from the research approval process are given as follows:

4.3.1.7.1 Category 1 – Personal action research conducted in established or commonly accepted educational settings, involving normal educational practices but not involving gathering information from or on living individuals for analysis and interpretation later or are mostly personal self-reflections, such as: (a) personal research on regular and special education instructional strategies; or (b) personal research on the effectiveness of, or the comparison among, instructional techniques, assessment, curricula, or classroom management methods.

4.3.1.7.2 Category 2 – Research involving the collection or study of existing data, documents, or records, if these sources are publicly available. Approval is not needed when the study does not involve gathering information from or on living individuals for analysis and interpretation later, or use of the University name or a researcher's status as a University affiliate in making requests for data. Outcomes of such work, including publication and dissemination of the findings, must still conform to the guidelines in the Code of Conduct.

4.3.1.7.3 Category 3 – Investigative research for journalistic purposes, which is clearly indicated as such.

4.3.2 Who shall apply for research approval

4.3.2.1 All faculty members, staff, or other associates of the University may apply for themselves, or on behalf of the research team of which they are the Principal Investigators, or on behalf of a research team of which they are members, if the Principal Investigator of the team is external to the University.

4.3.2.1.1 A faculty member wishing to coordinate student research projects involving many students (for example as part of the semester plan for a class) may apply for a blanket approval, prior to the commencement of the research, for all the students in the class. This would still require the submission of a research plan providing information, in general terms, about the research that will be carried out by the class. Blanket approval of the application automatically deputes the faculty member as an authorized representative of the CRC for the duration of the research work, in charge of ensuring the responsible conduct of the class's research. The researchers are still responsible for getting any other clearances the research may require. Any student research that potentially entails addressing ethical issues must seek approval through the standard proposal approval protocols.

4.3.2.2 PhD students and Master's students may apply themselves following established procedures relevant to research degrees. Even Master's degree students enrolled in "taught"

or "professional" Master's programmes, who may engage in some projects that meet the definition of "research" as given above, for example as part of their course requirements, must seek CRC approval for those research components of their programmes. In cases where the research work is minor or done as part of coursework, a coordinating faculty member may apply for blanket approval as stated above.

4.3.2.3 Undergraduate students are generally not expected to conduct independent projects and as such would not apply directly to the CRC. Rather, interested and motivated students should seek to align with and join a faculty member's research programme. The application would then come from the faculty member as the Principal Investigator, listing the students involved as members of the research team, and their roles. The faculty member is then explicitly responsible for the proper conduct of the research, taking care, for example, to instruct the research team on proper research ethics. A CRC may, however, allow an independent application from an undergraduate student (including someone doing a diploma programme) if the student can prove that he/she has a solid understanding of the research process, awareness of all applicable policies, a satisfactory research proposal, and that the programme guidelines require the conduct of an independent research study. In such an instance, the student may be categorized as Principal Investigator, though a "Statement of Mentorship" or other appropriate guarantee from a qualified mentor (ideally a faculty member) is required. The guarantor may or may not be a supervisor, per se, but must be an individual with a qualified research background that can monitor the conduct of the study, its ethical propriety and the progress of the student. This research, no matter how extensive or simple, must still go through all the systematic processes outlined in this policy document.

4.3.2.4 University affiliates doing research outside the University system/outside the Country

4.3.2.4.1 Anyone affiliated with the University (regular or contract employee or enrolled student) doing research anywhere in the world is considered a University researcher and as such falls under the jurisdiction of these University research policies, including the requirement for approval of research. Generally, a research proposal would be required by the external organization for a University affiliate doing research abroad, and this same proposal should suffice for CRC approval as long as the CRC requirements for research proposals are addressed. When no Bhutanese are used as "subjects/participants" in the research or no animals living here or the country's biological resources are involved, prior approval of an ethics committee of institutions elsewhere should be sufficient for projects that are based and/or funded elsewhere.

4.3.2.5 External applicants – Any applicants not covered by the above categories, or non-affiliated applicants wishing to do research in collaboration with the University, using University-affiliated human subjects, or any University resources may apply for approval directly through DRER. DRER may review and approve (or reject) the application directly, or suggest a University affiliate to collaborate with the external applicant. External applicants

may also apply to a College through its CRC, at which point the application may be endorsed by the College for final forwarding to and approval by DRIL.

4.3.3 Approval Process

4.3.3.1 In most cases, the approval process will begin and end with the College Research Committees, and is generally the same regardless of the funding situation of a candidate's project.

4.3.3.2 "Approval" for research and "Funding" of research are two separate things. The guidelines given here are for approval for a research project to proceed, not necessarily whether a research project gets funded. In cases where an application is given to a CRC as part of a competitive funding round, the CRC may approve a research plan in principle (and the research can proceed), but it may not be strong enough to secure funding.

4.3.3.3 A research application must be supported by a full-blown research proposal developed according to internationally accepted standards (see suggested structure in Section 4.5.3).

4.3.3.4 The Principal Investigator should, prior to the commencement of the research's data collection activities, submit a research plan (proposal) for approval by the CRC. The exact format for the application may be set by a CRC, but would generally follow the structure given below, with the addition of a page for the CRC to enter its response / recommendations. An application for a College or University research grant is generally also acceptable as a parallel application for CRC approval of the research.

4.3.3.5 The CRC, within three weeks, reviews the proposal and provides a written response. In case of non-response from a CRC for any reason, and after a good faith effort to follow up on the approval proceedings through written requests, a researcher may petition to Chair of the Institute/College Academic Committee for approval. The latter shall then ask the CRC to convene to undertake a review within one week of the receipt of request from IAC Chair. In case of no response from the CRC (which is very rarely the case), it would typically result in the IAC selecting a committee to do the review.

4.3.3.5.1 Review process – Exact procedures and review criteria are left to individual CRCs to formulate and implement, in line with the following basic principles:

4.3.3.5.1.1 The primary criteria for approval of a proposal is its compliance with this policy document (especially the section on ethics), and compliance with other appropriate laws, policies, and regulations (the burden of proof being on the Primary Investigator, generally satisfied through clearance certificates or letters).

4.3.3.5.1.2 Reviewers should uphold the principle of academic freedom for researchers and not seek to impose judgment on the selected research topic, methodology, or interpretations of its outcomes.

4.3.3.5.1.2.1 In cases where the proposed research seeks College or University funds, the CRC should evaluate how well the topic matches with the stated priority areas of that particular fund. If the proposal is sound but the topic is a poor

match for the fund's priority areas, the CRC can approve the research but not recommend it for funding. The Primary Investigator can pursue the research as per his/her own ability to fund it.

4.3.3.5.1.2.2 Where a research plan is structurally sound but the topic may represent a major deviation from the College and University's overall research mission and priority areas, or potentially constitute a threat to national values, a CRC can request an escalation to DRIL for further review.

4.3.3.5.1.3 Reviewers need not reject outright a proposal that is not in line with University research policies, but is of less-than-perfect quality or flawed in some way (e.g. imperfect research design, statistical or technical problems, etc.). Of course, if the proposal is applying for funding, a lower quality proposal would stand less of a chance for securing funds. However, a CRC may, as part of its mission, help improve the proposal by recommending remedies or suggest better procedures for the researcher to follow to enhance the likelihood of success for the research project. This is the recommended course of action, at least in the formative years of research at the University. The research administration system, at all levels, should seek to provide educational support and guidelines for improving research quality.

4.3.3.5.1.4 A totally poor-quality proposal would diminish the quality of research at the University and should not be approved, regardless of whether or not it sought funding.

4.3.3.5.2 Review outcomes – A CRC should respond to every research proposal in the following ways:

4.3.3.5.2.1 Approval – The research may proceed immediately, subject to the monitoring and reporting guidelines given below.

4.3.3.5.2.2 Approval with minor changes recommended – The research may proceed according to the directions given by the CRC for changes. For very minor changes, the CRC may make a note in the application and entrust the Principal Investigator to follow through on the changes. For other changes, the CRC may request the Principal Investigator to submit the necessary revisions to particular sections as necessary prior to proceeding.

4.3.3.5.2.3 Rejection (major changes recommended) – The applicant may submit another, revised, research proposal at any time. The revised proposal will be treated as a fresh application by the CRC. An applicant must change the proposal in some substantial way in order to resubmit, but can submit a revised and improved proposal as many times as desired unless a final rejection notice is issued (see following point). Justifications should be provided by the CRC in case a proposal is rejected. Each College/Institute should, within the framework of this policy, develop its own criteria for approving or rejecting proposals based on clear reasoning, to be communicated to the applicant.

4.3.3.5.2.4 Rejection (do not apply again) – This is generally issued when the research is not at all within the scope of the University's research policy and the proposal does not meet the quality standards required for research approval. The applicant may (1) discontinue pursuit of research on the rejected topic, but may apply again at any time on a substantially different topic, or (2) petition once to the DRIL for a review in this case.

4.4 Research Monitoring

4.4.1 Researchers shall follow the plan set out in the research proposal and notify the CRC of significant deviations, particularly when there are changes to protocols involving human or animal subjects. Any deviation from the initially approved research proposal and/or the University research policies, procedures and guidelines shall again need clearance from the CRC.

4.4.2 It will be the responsibility of the respective CRC to ensure that the researchers conduct research according to the proposal (and changes, if any) and in line with the University research policies, guidelines and procedures.

4.4.3 The faculty engaged in any research and services adhere to the budget prepared in line with the rules of the University before the commencement of the activity and maintain a complete statement of expenditure along with required documents.

4.4.4 Precise procedures for monitoring are determined by respective CRCs. At a minimum:

4.4.4.1 A progress report should also be submitted by the researchers to the CRC half-way through the research, or every six months, whichever is shorter.

4.4.4.2 A final report of the research shall be submitted to the CRC upon completion of the work. A publication suffices in lieu of a separate final report.

4.4.4.3 A statement of grants received shall be submitted to CRCs for all funded projects, whether the funding came from within the University or from an external source.

4.4.5 DRIL shall follow up on allegations of misconduct promptly, as and when they arise.

4.4.6 CRCs shall report bi-annually on research activities at the College level to DRIL for onward reporting to the IAC and RIC.

4.5 Research Proposals

4.5.1 Overview – A research proposal is an overall plan, scheme, structure and strategy for obtaining the answers to research questions, placed in the appropriate context (theoretical and conceptual framework) with well thought-out rationales.

4.5.2 Purpose – A research proposal is intended to convince others that there exists potential for a worthwhile research project and that the researcher is competent and has thought through the work necessary to complete it. The proposal should explain all major elements involved in the proposed project and be detailed enough for a well-informed reader to evaluate on its merits. A research proposal also allows the researchers to ensure, for

themselves, that they have adequately thought through all the various aspects of planning a research project.

4.5.3 Suggested structure – For extra information and help with writing research proposals, refer to the Research Services section of the University's research website. Research Services shall make proposal templates available to college researchers for use throughout the University.

4.5.3.1 Title – A concise description of the work. Often titles are stated in terms of a functional relationship, because such titles clearly indicate the independent and dependent variables. However, if possible, think of an informative but catchy title. An effective title not only catches the reader's interest, but also predisposes him/her favourably towards the proposal.

4.5.3.2 Abstract – A brief summary of approximately 300 words. It should include the research question, the rationale for the study, the hypothesis (if any), the methodology and possible expected outcomes. Descriptions of the method may include the design, procedures, the sample and any instruments that will be used.

4.5.3.3 Introduction (including problem statement) – This provides necessary context for the research problem. It briefly highlights the current status of the field and any major gaps in knowledge that need additional research. First, the research question should be placed in the context of a current, focused, and active research area (or if it's an older area, explain why that is still a viable research topic). Second, provide some historical background, if any. Thirdly, discuss the modern context, wherein the research will be central. Finally, refer briefly to the most significant recent publications (the full literature review is separate).

4.5.3.3.1 The problem statement, which may be in the introduction in an appropriate place, serves to: (1) Introduce the reader to the importance of the problem. The reader is oriented to the significance of the study and the research questions or hypotheses to follow; (2) Place the problem in a context; (3) Provide the framework for reporting the results; and (4) Indicate what is probably necessary to conduct the study and explain how the findings will present this information.

4.5.3.3.2 Sample parts of a qualitative problem statement: The purpose of this [type of study] study is to understand [what] of [who or what] involving [what or who] from [when] to [purpose]. Note: This can be spread out over two sentences if necessary.

4.5.3.3.3 Background (literature review) – This demonstrates to yourself and reviewers that you understand your field, and you have the background knowledge to move forward. Most research is incremental: if you cannot find literature on research that is very similar to yours, you have not looked hard enough. Give historical context, but keep the bulk of this section focused on recent advances (less than 10 years old). Sum up this section with a brief statement of the unknowns in this field, and hint at how your research will address these gaps.

4.5.3.4 Specific aims – Should answer the question: "What am I going to do?" Think high level, but make each aim an achievable objective, not a best effort, one with clear endpoints peer reviewers can easily assess. Aims should be somewhat independent of each other. Check that: (1) My Specific Aims can test my hypothesis; (2) They are doable within the grant period I am requesting. (3)The aims are concrete and well-focused. (4) I can define endpoints my peer reviewers will be able to assess.

4.5.3.5 Preliminary results (if any) – This section briefly gives the results of any preliminary / exploratory studies that have been carried out; pilot studies; feasibility studies. It is often used to prove that your design is likely to succeed. It should be directly related to your research design. It can be your own work or someone in your research group (properly acknowledged).

4.5.3.6 Research design (methods, different phases of the study, description of the instruments, sample population and sampling procedure, study site, technical details) – The plans and procedures for research: how you intend to execute the study. It provides sufficient information for any reader/reviewer to determine if your methodology is valid. For each specific aim:

4.5.3.6.1 Provide a Rationale – Why is the Aim important and why do the procedures adopted represent the best approach to accomplishing the Aim.

4.5.3.6.2 Individual instruments and procedures; experiments – Describe the procedure, and explain how you will collect data (depending on the exact method, you must explicitly mention why this is a valid method/instrument).

4.5.3.6.3 Explain limitations, assumptions, and potential caveats (and possible alternatives).

4.5.3.7 Mode of distribution of the research findings, and estimation of the potential benefits of the research – Indicate how the outcomes will be published or otherwise disseminated, and what sectors could benefit from the outcomes.

4.5.3.8 Statement on the ethical conduct of the research – Indicate any and all potential ethical issues you may encounter. Give plans to avoid ethical dilemmas, or if they are encountered, how you will overcome them.

4.5.3.8.1 Human subjects research – Explicitly state how you will follow best practices in your field (e.g. informed consent and anonymity).

4.5.3.8.2 Other animal research – Typically needs to document evidence that you will meet specific requirements for ethical conduct of animal research cognizant of Bhutanese values.

4.5.3.9 Statement on potential conflicts of interest – Full disclosure of any potential conflicts of interest and plan to manage them (made in consultation with the CRC), or a statement that there are none.

4.5.3.9.1 Statement on health and safety considerations, if necessary – Plan to ensure the health and safety of members of the research team for work proposed which may be hazardous.

4.5.3.9.2 Proposed budget and resource requirements – Detail of the financing of the research (if already secured) or funding request. The budget should follow University financial guidelines. Researchers must be sure to include the indirect costs – A sponsored project budget will include the University's full negotiated Facilities & Administration (indirect) cost rate, unless a waiver of those costs has been approved.

4.5.3.9.3 Indirect costs shall not be charged in case of research funded by organizations that do not allow indirect costs in grant. In such instances, the researchers may not include the indirect costs in their budget.

4.5.3.9.4 Proposed time-frame – Indicate the overall time-frame for the research as well as phase-wise goal deadlines.

4.5.3.9.5 Evidence of the researchers' capability to carry out the work – CVs of all researchers covered by the proposal. This should also include evidence of having obtained necessary training, including relevant coursework if any. Student team members are not required to include a full CV, but should still include basic biographical data including descriptions of relevant coursework completed, academic performance, and any relevant experience.

4.5.3.9.6 Statement of support from a supervisor or guarantor, if necessary (students) – If the proposal is submitted by students, it should include a letter of support from a supervisor or guarantor.

4.5.3.9.7 Role of collaborators and credit-sharing agreement (if any) – If collaborating partners are involved, the involvement, relative contribution, and plan for credit-sharing should be given.

4.5.3.9.8 Any required clearances – For example, medical (REBH), environmental (NEC), statistical (NSB), or related to natural resources or traditional knowledge about natural resources (CoRRB, NBC), etc. CRCs should grant "in-principle" approval for the proposal if it meets all other criteria, pending these other clearances, in order to allow the proposal to be forwarded to the other clearing agencies with the backing of the College.

5 Research Code of Conduct-Foundational Principles

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

5.1 Purpose

The Royal University of Bhutan is committed to ensuring the highest possible standards of integrity in the conduct of research by its staff, both academic and research, and the students. This Code provides guidelines on the standards of work performance and ethical behaviour expected of all persons engaged in research at the Royal University of Bhutan. This Code applies to all faculty and employees, students, visiting researchers and fellows working within the University or as part of a team associated with the University, or by anyone using University resources. This Code is intended to be a dynamic document that must change with the onset of new developments and current research practices across the globe. The Code is divided topic-wise into several Chapters as indicated. This first Chapter of the Code establishes the basis for the University's principles regarding the responsible conduct of research, and covers the fundamental characteristics of honesty and integrity, transparency and accountability, and professional conduct that should govern the behaviour of all researchers at the University.

5.2 Underlying Values

5.2.1 The following values underlie this code:

5.2.1.1 Honesty – Conveying information truthfully and honouring commitments.

5.2.1.2 Accuracy – Reporting findings precisely and taking care to avoid errors.

5.2.1.3 Morality and Ethics – Conducting research with a view to maximize benefits as widely as possible, and minimize possibility of harm to sentient beings and universal human values.

5.2.1.4 Scholarship and Professionalism – Maintaining academic and professional standards on par with best practices around the world.

5.2.1.5 Inclusiveness – Recognizing that capacity-building, cooperation, and community outreach are as important as getting good data and results.

5.2.1.6 Trust – Inspiring confidence in persons and systems within and beyond the University that enable a free exchange of ideas, and enables all to reach their highest potential.

5.2.1.7 Fairness – Clear standards that are fairly applied to all members of the University community.

5.2.1.8 Respect – Acknowledging the incremental and participatory nature of research and respecting the contributions and varying perspectives of others.

5.2.1.9 Responsibility – Believing that every person in the academic community is personally accountable for taking action when any breach of integrity occurs.

5.2.1.10 Efficiency – Using resources wisely and avoiding waste.

5.2.1.11 Objectivity – Letting the facts speak for themselves and avoiding improper bias.

5.3 Sources of Guiding Principles, Rules, Regulations, and Best Practices for Research

5.3.1 Government policies – Guidance from the following sources was incorporated into this document:

5.3.1.1 Constitution and laws of the Kingdom of Bhutan

5.3.1.2 Royal Charter of the Royal University of Bhutan

5.3.1.3 Tertiary Education Policy of Bhutan

5.3.1.4 Government-endorsed policy documents from within various Ministries

5.3.2 University policies – Policies governing research are laid out throughout this document. Other relevant documents include the University HR Policy, University Financial Rules and Regulations, and the Wheel of Academic Law. Beyond this, the University encourages its researchers to look to codes of conduct and best practices within their professions, to be mindful of societal and cultural norms, and to develop personal codes of ethics and responsibility.

5.3.3 International best practices – Significant portions of the various sections covering research conduct were adopted from the Introduction to the Responsible Conduct of Research (2007) by Nicholas H. Steneck, PhD, published by the Office of Research Integrity at the U.S. Department of Human and Health Services (www-personal.umich.edu/~nsteneck/researchintegrity/RCRintro/index.html), a valuable resource for additional, more detailed information about the responsible research conduct. Certain principles, responsibilities, and practices are fundamental to the integrity of research wherever it is undertaken. The Singapore Statement on Research Integrity (www.singaporestatement.org) was developed as part of the 2nd World Conference on Research Integrity, July 2010, in Singapore, as a global guide to the responsible conduct of research, and represents an important starting point for the University and its researchers for aligning their research activities with global norms for research integrity.

5.3.4 Professional codes of conduct and best practices – Intellectually and professionally researchers organize their lives around fields of study: natural scientists, sociologists, etc. In many cases, professional societies that represent fields of study have developed basic guidelines for responsible research practices. Many have been catalogued by the Council of European Social Science Data Archives (www.cessda.org/sharing/rights/4/). Although such societies' codes of ethics are often simply general statements about ideals and do not contain the specific guidance researchers need to work responsibly in complex research settings, they nevertheless provide an excellent starting point for standards that researchers should aim for. Moreover, guidance on responsible publication practices is often published in journals.

5.3.5 Societal and cultural influences – Bhutan is a culturally and spiritually rich society grounded in Buddhist values such as compassion and sharing benefits as widely as possible. Moreover, a core philosophy in the country is Gross National Happiness, espousing promotion of sustainable development, preservation and promotion of cultural values, conservation of the natural environment, and good governance. Where possible, such influences have been incorporated into specific policies herein. However, at the individual level, researchers are also requested to be mindful of the country's values.

5.3.6 Personal responsibility and convictions

5.3.6.1 Formal rules represent the minimum standards for behaviour rather than the ultimate ideal. Responsible research requires more than simply following the rules. This happens through experience and constant professional and personal self-development. Researchers should pay attention to the approaches and attitudes in research work, not just the techniques. Mentors should cultivate responsible research ethics in addition to developing technical proficiency in trainees such as students and junior researchers.

5.3.6.2 Rules will not resolve some of the personal conflicts and moral dilemmas that arise in research. Rules also cannot replace the critical reasoning skills needed to assess ethically controversial human or animal experiments or conflicts of interest. Researchers will face ethical dilemmas in research. They should be able to recognize these dilemmas and know how to resolve them. Beyond going through this handbook, this requires good judgment and a strong sense of personal integrity. In the final analysis, whatever decision researchers make when they confront a difficult decision about responsibility in research, they are the ones who have to live with the consequences of that decision.

5.4 Honesty and Integrity

5.4.1 Researchers at all times shall be honest in their own actions in research and in their responses to the actions of other researchers.

5.4.2 Researchers shall maintain honesty and integrity while designing research plans, generating and analyzing data, applying for funding, publishing results, and acknowledging the direct and indirect contributions of colleagues, collaborators and others.

5.4.3 Researchers shall refrain from plagiarism, piracy, fabrication of results or infringement of intellectual property.

5.4.4 Researchers shall ensure that their works shall not suffer from conflicts of interest arising from their personal, political or financial involvements.

5.4.5 Researchers must respect the secrecy of all confidential information obtained in the course of their research, unless otherwise approved by law or client.

5.4.6 Researchers shall refrain from deliberate dissemination of falsehoods.

5.4.7 Researchers shall be objective and truthful in professional reports, statements, or testimony.

5.4.8 Researchers shall not falsely, directly or indirectly, injure the professional reputation, prospects, practice or employment of another researcher/colleague.

5.4.9 Researchers shall not intentionally conduct any study in such away as to bias the results towards certain desired outcomes. Moreover, researchers shall design their methodologies in such a way as to minimize possibilities of unintentionally introducing bias into the results.

5.5 Transparency and Accountability

5.5.1 Researchers shall maintain transparency during the process of planning their research, carrying out their research plans, writing up research findings, requesting research funds, and handling intellectual property rights.

5.5.2 Researchers shall transparently and truthfully share to the intellectual community, the knowledge and experience gained through their research work.

5.5.3 Researchers shall be accountable to society, their profession, the University, the staff and students involved and the funding agency for the research work that they undertake.

5.5.4 Researchers shall conduct themselves with fairness, and good faith towards clients, colleagues and others, and give credit where it is due and accept, as well as give, honest and fair professional criticism.

5.5.5 Researchers shall advocate and practice the judicial use of resources belonging to public, employers or clients.

5.6 Professional Conduct

5.6.1 Researchers shall keep themselves informed in order to maintain their competence, strive to advance the body of knowledge within which they practice and provide opportunities for the professional development of themselves, their subordinates and fellow practitioners.

5.6.2 Researchers shall strive to acquire knowledge and skills through appropriate research endeavours aimed at advancing the body of knowledge for the sake of people and their environment.

5.6.3 Researchers shall be aware of the global research trends and developments, but adapt, synthesize and implement to cater to the local and national interests.

5.6.4 Researcher shall conduct themselves in a professional and responsible manner while representing the University and the Nation in any national and international forum.

5.6.5 Researchers shall observe the standards of practice and conduct set out in guidelines published by funding bodies, academic and scientific societies and also other relevant professional bodies.

5.6.6 Researchers shall be aware of the legal requirements, which regulate their work noting particularly health and safety legislation and data protection.

5.6.7 Researchers shall obtain methodological and ethical approval for all research works.

6 Research Code of Conduct – Protection of Research Subjects

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

6.1 Purpose

The University maintains the belief that it is the shared responsibility of its administrative structures and its researchers to uphold a culture of respect and trust in the protection of the rights and welfare of research subjects. The right to intellectual inquiry is embodied in the concept of academic freedom, but where such inquiry involves the use of research subjects, it is a privilege, not a right. The privilege is granted to the University based on the public trust, to pass on to those researchers who have assured their willingness to work within the commonly accepted guidelines. The guidelines presented here serve to promote an ethical and safe research environment concerning human subjects, animal subjects, the natural environment, and the society at large.

6.2 Human Subjects Research

6.2.1 Introduction

6.2.1.1 The use of human subjects in research is important and benefits society in many ways but can also pose unacceptable risks on research subjects. To help ensure that the risks do not outweigh the benefits, human subjects research is carefully regulated by laws, professional codes of conduct, and social norms. Generally speaking, researchers at the University shall refrain from any kind of research activity that would directly or indirectly harm the health and safety of people, either physically, psychologically, or emotionally.

6.2.1.2 Human subjects research is research that involves the participation (active or passive) of any currently living human being. Examples include surveys, interviews, focus groups, observations, medical research, physical, psychological or social experiments, tests, or data collection about personally identifiable individuals.

6.2.1.3 Investigators who conduct research involving humans that is subject to regulation must comply with all relevant government regulations as well as any applicable University policies related to the protection of human subjects. They are also expected to follow other relevant codes that have been formulated by professional groups. Researchers who expect to use or study living humans in their research, no matter how harmless that use may seem, must familiarize themselves with their responsibilities and obtain approval from relevant authorities before making any contacts or undertaking any work. To meet these responsibilities requires, among other things:

6.2.1.3.1 Knowing what research is subject to regulation

6.2.1.3.2 Understanding and following the rules for project approval

6.2.1.3.3 Getting appropriate training

6.2.1.3.4 Accepting continuing responsibility for compliance through all stages of a project

6.2.2 International norms

6.2.2.1 Society protects the welfare of individuals in many ways, but issues specific to the welfare of research subjects were not addressed until the formulation of a code for human subjects research known as the Nuremberg Code (1947). Although not binding on researchers, the Nuremberg Code and the later World Medical Association Declaration of Helsinki (1964; latest revision and clarification, 2008) provided the first explicit international guidelines for the ethical treatment of human subjects in research. Although primarily intended to cover medical research, the principles are generally applicable to any research involving human subjects, and the University respects these principles. Relevant principles of the Declaration are:

6.2.2.1.1 Basic principles – The fundamental principle is respect for the individual (Article 8), their right to self determination and the right to make informed decisions (Articles 20, 21 and 22) regarding participation in research, both initially and during the course of the research. The investigator's duty is solely to the patient (Articles 2, 3 and 10) or volunteer (Articles 16, 18), and while there is always a need for research (Article 6), the subject's welfare must always take precedence over the interests of science and society (Article 5), and ethical considerations must always take precedence over laws and regulations (Article 9). The recognition of the increased vulnerability of individuals and groups calls for special vigilance (Article 8). It is recognized that when the research participant is incompetent, physically or mentally incapable of giving consent, or is a minor (Articles 23, 24), then allowance should be considered for surrogate consent by an individual acting in the subject's best interest, in which case their consent should still be obtained if at all possible (Article 25).

6.2.2.1.2 Operational principles – Research should be based on a thorough knowledge of the scientific background (Article 11), a careful assessment of risks and benefits (Articles 16, 17), have a reasonable likelihood of benefit to the population studied (Article 19) and be conducted by suitably trained investigators (Article 15) using approved protocols, subject to independent ethical review and oversight by a properly convened committee (Article 13). The protocol should address the ethical issues and indicate that it is in compliance with the Declaration (Article 14). Studies should be discontinued if the available information indicates that the original considerations are no longer satisfied (Article 17). Information regarding the study should be publicly available (Article 16). Ethical publications extend to publication of the results and consideration of any potential conflict of interest (Article 27). Experimental investigations should always be compared against the best methods, but under certain circumstances a placebo or no treatment group may be utilized (Article 29). The interests of the subject after the study is

completed should be part of the overall ethical assessment, including assuring their access to the best proven care (Article 30). Wherever possible unproven methods should be tested in the context of research where there is reasonable belief of possible benefit (Article 32).

6.2.2.2 Many other professional organizations have also developed ethics codes for human subjects research (for example those compiled by the Council of European Social Science Data Archives regarding a variety of social sciences research categories including Anthropology, Education, Sociology, Political Science, etc.). These should also be consulted regularly in the course of research.

6.2.2.3 A cornerstone for human subjects research is the principle of informed consent. This refers to participants' agreement that they are willing to take part in the research, having been told what they will be expected to do during the research. They must be given enough information about what they will be expected to do during the research procedure that they can reasonably make an informed decision about whether they agree to participate or not. There should be no compulsion to participate, although positive incentives can be offered.

6.2.2.3.1 Right to withdraw – Participants need to be told that they are allowed to withdraw from research at any time and to have any data collected from their participation destroyed. They can withdraw at any time, before, during and even after they have participated. Clearly, if too many participants withdraw, the quality of the research will suffer. For this reason, it is important to make sure that they have been provided with good information when asking for their informed consent.

6.2.2.3.2 Right to debriefing – Participant debriefing occurs at the end of the procedure. Participants can now be informed of the exact aims of the research, for example, the research hypothesis. Any questions they have must be answered. The researcher should aim to give them the necessary attention for them to leave the research scenario in the same state of mind as they entered it.

6.2.3 RGoB regulations – University researchers are subject to all the laws, policies, and regulations of the country. The primary responsibility for ensuring compliance lies with them, but some of governing policies related to human subjects research are summarized here, by focal agency.

6.2.3.1 Research Ethics Board of Health – REBH was formed in the Ministry of Health, RGoB, to protect human participants in any research or studies. All those conducting any health related research /study in Bhutan involving human participants must obtain prior Ethical Approval from REBH before conducting the research/study. Such clearance should be provided to a College Research Committee along with the research proposal for approval. Ref: www.health.gov.bt/rebh.php

6.2.3.2 National Statistical Bureau – By executive order of Prime Minister Sangay Ngedup (May 26, 2006), as per the decision of the 300th Coordination Committee Meeting of the Council of Ministers (April 11, 2006), the NSB is "designated as the central authority for collection and release of any official data, and their custodian. As such, all ministries, departments,

and agencies are directed to acquire prior approval from the NSB on all statistical matters." The University, though it exerts its independence as an autonomous institute, recommends that researchers dealing with human statistical information (such as would be collected through survey sampling from the national population) as a matter of professional practice, inform the NSB of any nation-wide sampling studies being conducted. CRCs are expected to monitor this level of compliance with the executive order.

6.2.3.3 National Biodiversity Centre – The Biodiversity Act of Bhutan (2003) provides for the conservation and sustainable use of biological resources through the regulation of access and equitable sharing of benefits as well as the documentation and protection of traditional knowledge associated with biological resources. As per the Access and Benefit Sharing Policy (still in a draft stage), the NBC is the central authority on matters involving traditional knowledge (TK), and as such must be consulted prior to human contacts made with the intention of documenting TK. CRCs are expected to monitor compliance with this.

6.2.3.4 Department of Culture, Ministry of Home and Cultural Affairs – Researchers interested in studying Bhutanese cultural properties or cultural heritage sites should seek approval from this Department.

6.2.4 Definitions and requirement for approval

6.2.4.1 Researchers are responsible for obtaining appropriate approval before conducting research involving human subjects. The need for approval rests on three seemingly obvious but not always easy-to-interpret considerations: 1) whether the work qualifies as research, 2) whether it involves human subjects, and 3) whether it is exempt. The authority to make decisions on the need for approval rests with the CRC or other appropriate institutional officials.

6.2.4.2 Research is defined as "systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge." This means that a project or study is research if it is conducted with the intention of drawing conclusions that have some general applicability and uses a commonly accepted scientific method. The random collection of information about individuals that has no general applicability is not research, while scientific investigation that leads to some form of generalizable knowledge is considered research.

6.2.4.3 Human subjects are living individual(s) about whom an investigator (whether professional or student) conducting research obtains: (1) data through intervention or interaction with the individual; or (2) identifiable private information". Humans are considered subjects and covered by research regulations if the researcher interacts or intervenes directly with them, or collects identifiable private information. If one of these two conditions applies and if the project or study qualifies as research, then institutional approval is needed before any work is undertaken.

6.2.4.3.1 Intervention includes both physical procedures by which data are gathered (for example, measuring blood pressure) and manipulations of the subject or the subject's environment that are performed for research purposes.

6.2.4.3.2 Interaction includes communication or interpersonal contact between investigator and subject.

6.2.4.3.3 Private information includes information about behaviour that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

6.2.4.4 Exempt research – Some studies that involve humans may be exempt from the requirements for approval (see Section 4.3 above). If the Principal Investigator has any doubt whether her/his work qualifies for an exemption, the researcher is encouraged to check with the head of the CRC to get written confirmation of this status.

6.2.5 Institutional Review

6.2.5.1 Human subjects research shall be reviewed by a Human Research Ethics Committee (HREC).A CRC shall act as a HREC, or form this as a sub-committee of the CRC, or as an independent committee, deputing members as necessary from within or outside the University structure for this purpose. HRECs are appointed by their institution, but they have considerable independent authority.

6.2.5.2 HRECs have authority to approve, require modification of (in order to secure approval), and disapprove any human subjects research activities. They also are responsible for conducting continuing review of research at least once per year and for ensuring that proposed changes in approved research are not initiated without HREC review and approval, except when necessary to eliminate apparent immediate hazards to the subject.

6.2.5.3 HRECs may weigh many factors before approving proposals. Researchers should consider each of these issues before completing their research plan and submitting it to an HREC for approval. Their main concern for HRECs is to determine whether:

6.2.5.3.1 Risks to subjects are minimized.

6.2.5.3.2 Risks to subjects are reasonable in relation to anticipated benefits, if any, to subjects, and the importance of the knowledge that may reasonably be expected to result.

6.2.5.3.3 Selection of subjects is equitable.

6.2.5.3.4 Informed consent will be sought from each prospective subject or the subject's legally authorized representative.

6.2.5.3.5 Informed consent will be appropriately documented.

6.2.5.3.6 When appropriate, the research plan makes adequate provision for monitoring the data collected to ensure the safety of subjects.

6.2.5.3.7 When appropriate, there are adequate provisions to protect the privacy (anonymity and/or confidentiality as the case may be) of subjects and to maintain the confidentiality of data.

6.2.5.4 Making decisions about whether human subjects will be treated fairly and appropriately or given adequate information requires judgments about right and wrong (moral judgments). In the 1979 Belmont Report ("Ethical Principles and Guidelines for the Protection of Human Subjects of Research"), the National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research (USA) recommended the following three principles for making these judgments. While this list does not exhaust the principles that can be used for judging the ethics of human subjects research, it has nonetheless been accepted as a common standard for most HREC deliberations. Knowing this, researchers should spend time considering whether their work does provide adequate respect for persons, appropriately balances risks and benefits, and is just:

6.2.5.4.1 Respect for persons and their right to make decisions for and about themselves without undue influence or coercion from someone else (the researcher in most cases).

6.2.5.4.2 Obligation to maximize benefits and reduce risks to the subject.

6.2.5.4.3 Justice or the obligation to distribute benefits and risks equally without prejudice to particular individuals or groups, such as the mentally disadvantaged or members of a particular race or gender.

6.2.5.5 Broadly speaking, researchers and HRECs shall exercise an abundance of caution when dealing with human subjects to protect their interests, privacy, and safety. A similar level of caution is advised when dealing with recently deceased people where the sentiments of relations could be harmed. Historical figures are generally open for access to research activities conducted in a professional manner.

6.2.5.6 Enforcement of human subjects welfare requirements is done based on an "Assurance" mechanism: When human subjects research is conducted by a College researcher, the CRC/ HREC approval of the research implicitly serves as an assurance to the University that the research shall comply with applicable rules and policies for the protection of human subjects. If the assurance is found to be violated, RIC may suspend some or all human-subjects research at a non-compliant College.

6.2.6 Training

6.2.6.1 To help assure that researchers understand their responsibilities to research subjects, the University requires some form of education on the protection of human research participants for all investigators submitting research proposals involving human subjects.

6.2.6.2 This training could be provided through special web-based programs that summarize essential information and in some cases require some evidence of mastery. In other cases, the classes which cover human subjects research ethics, already taken as part of academic programmes could meet the requisite training requirement. Colleges may also choose to provide certified Research Methods workshops covering ethics.

6.2.6.3 A description of the education programme and who was trained must be included in research proposals before they will be considered.

6.2.7 Continuing responsibilities of researchers and HRECs

6.2.7.1 Once a project has been approved by an HREC, researchers must adhere to the approved protocol and follow any additional HREC instructions. If not, an assurance could be suspended. The continuing responsibilities that researchers have include:

6.2.7.1.1 Enrolling only those subjects that meet pre-approved inclusion and exclusion criteria

6.2.7.1.2 Properly obtaining and documenting informed consent

6.2.7.1.3 Obtaining prior approval for any deviation from the approved protocol

6.2.7.1.4 Keeping accurate records

6.2.7.1.5 Promptly reporting to the HREC any unanticipated problems involving risks to subjects or others

6.2.7.2 While HRECs have a role in monitoring the progress of human subjects research, the primary responsibility for conducting research studies as approved still lies with the individual researchers and staff who conduct the research.

6.2.8 Instances of breach of research code of conduct and their consequences are described in Chapter 11: Research Misconduct.

6.3 Animal Research

6.3.1 Introduction

6.3.1.1 Animal research is as carefully regulated as human research, but for different reasons. With humans, regulation stems from the need to assure that the benefits all humans gain from human research do not impose unacceptable burdens on some research participants. Animals may benefit from the information gained through animal experimentation and some research with animals is conducted specifically for the purpose of improving animal health (veterinary medicine and animal husbandry research). But, most animal research

is conducted primarily for the benefit of humans, not animals. Moreover, unlike humans, animals cannot consent to participate in experiments or comment on their treatment, creating special needs that should be taken into consideration in their care and use.

6.3.1.2 The special needs of animals have evolved over time into policies for the appropriate care and use of all animals involved in research, research training, and biological testing activities. If researchers use or study living animals in their research, regardless of the level of invasiveness, they must familiarize themselves with their responsibilities and check with the appropriate authorities before making any plans or undertaking any work. Researchers can meet their responsibilities by:

6.3.1.2.1 Knowing what activities are subject to regulation

6.3.1.2.2 Understanding and following the rules for project approval

6.3.1.2.3 Obtaining appropriate training

6.3.1.2.4 Accepting continuing responsibility for compliance through all stages of a project

6.3.2 Principles for the responsible use of animals in research

6.3.2.1 The University freely supports non-intrusive (observational, indirect) research on wild animals.

6.3.2.2 Where experimentation on animals is concerned, some scientifically necessary experimentation is acceptable, but it should be kept to a minimum and conducted on animals as low as possible on the phylogenetic scale, in ways that minimize pain, distress and suffering.

6.3.2.3 All animal research must be based on sound scientific research practices.

6.3.2.4 The research should respect the religious and cultural sentiments of Bhutanese communities.

6.3.2.5 General advice on ways to assure appropriate respect for animals can be found in the "three Rs of alternatives" devised by Russell and Burch in 1959 (The Principles of Humane Experimental Technique):

6.3.2.5.1 Replacement – Using non-animal models such as microorganisms or cell culture techniques, computer simulations, or species lower on the phylogenetic scale.

6.3.2.5.2 Reduction – Using methods aimed at reducing the numbers of animals such as minimization of variability, appropriate selection of animal model, minimization of animal loss, and careful experimental design.

6.3.2.5.3 Refinement – The elimination or reduction of unnecessary pain and distress.

6.3.2.6 Further guidance may be found in the United States Public Health Service's Government Principles for the Utilization and Care of Vertebrate Animals Use in Testing, Research and Training, which states that researchers should:

6.3.2.6.1 Follow the rules and regulations for the transportation, care, and use of animals.

6.3.2.6.2 Design and perform research with consideration of relevance to human or animal health, the advancement of knowledge, or the good of society.

6.3.2.6.3 Use appropriate species, quality, and the minimum number of animals to obtain valid results, and consider non-animal models.

6.3.2.6.4 Avoid or minimize pain, discomfort, and distress when consistent with sound scientific practices.

6.3.2.6.5 Use appropriate sedation, analgesia, or anaesthesia.

6.3.2.6.6 Painlessly kill animals that will suffer severe or chronic pain or distress that cannot be relieved.

6.3.2.6.7 Feed and house animals appropriately and provide veterinary care as indicated.

6.3.2.6.8 Assure that everyone who is responsible for the care and treatment of animals during the research is appropriately qualified and trained.

6.3.2.6.9 Defer any exceptions to these principles to the appropriate Animal Ethics Committee (AEC, see below).

6.3.3 University rules, policies, and guidelines

6.3.3.1 International best practices and guidelines from CoRRB's RNR Research Policy (MoAF), whichever are the more conservative, shall be followed. It is the responsibility of the Principal Investigator to demonstrate awareness of proper animal handling procedures and ability to execute them properly prior to commencement of the research. CRCs shall ensure that this is the case.

6.3.3.1.1 From CoRRB RNR Research Policy 2012: The goals for animal research are to (i) Promote adherence to universally accepted humane standards for treatment or use of animals in research, giving due cognizance to the religious and cultural norms and prevailing policies and instruments under the RGoB. (ii) Establish an interim Administrative Panel on RNR Research Animal Care to oversee welfare and humane and ethical treatment of animals in RNR research and to guide the establishment of permanent mechanisms. The University will self-regulate through AECs/CRCs in lieu of concrete mechanisms provided by CoRRB.

6.3.3.1.2 Researchers should also consult professional guides such as the detailed Guide for the Care and Use of Laboratory Animals, prepared by a committee appointed by the National Research Council of the National Academy of Sciences (USA), which covers topics such as Animal Environment, Housing, and Management, or Veterinary Medical Care.

6.3.3.2 A CRC shall act as an AEC, or form this committee as a sub-committee of the CRC, or as an independent committee, deputing members as necessary from within or outside the University structure for this purpose. AEC members are appointed by their institution, but they have considerable independent authority. Their responsibilities include:

6.3.3.2.1 Reviewing and approving all animal use research proposals

6.3.3.2.2 Reviewing the institution's state of animal care

6.3.3.2.3 Inspecting (at least twice a year) the institution's animal facilities and handling procedures

6.3.3.2.4 Receiving and reviewing concerns raised about the care and use of animals

6.3.3.2.5 Submitting reports to the DRIL

6.3.3.2.6 Suspending projects if it is determined that they are not being conducted in accordance with applicable requirements

6.3.3.3 Enforcement of animal welfare mechanisms is done based on CoRRB's RNR Policy. The University also follows an "Assurance" mechanism: When animal research is conducted in a College, the CRC approval of the research implicitly serves as an assurance to the University that the research shall comply with applicable rules and policies for animal care and use. If the assurance is found to be violated, RIC may suspend some or all animal research at a non-compliant College.

6.3.3.4 Research involving animals requires a special statement in the research proposal on the humane treatment of the research subjects, with detail including, but not limited to:

6.3.3.4.1 Identification of the species and approximate number of animals to be used.

6.3.3.4.2 Rationale for involving animals, and for the appropriateness of the species and numbers used.

6.3.3.4.3 A complete description of the proposed use of the animals.

6.3.3.4.4 A description of the handling procedures for the animals (transportation, feeding, holding conditions).

6.3.3.4.5 A description of procedures designed to assure that discomfort and injury to animals will be limited to that which is unavoidable in the conduct of scientifically valuable research, and that analgesic, anaesthetic, and tranquilizing drugs will be used where indicated and appropriate to minimize discomfort and pain to animals.

6.3.3.4.6 A description of any euthanasia method to be used.

6.3.3.5 At this time, research involving invasive procedures or trauma to live vertebrate animals is not recommended. Feeding vertebrate animals to other live vertebrate animals as would occur naturally in the environment is allowed.

6.3.3.6 Researchers should refrain from animal research that may harm the sentiments of nearby community members.

6.3.3.7 Non-intrusive (observational) research on wild animals is permitted.

6.3.3.8 Research on endangered species that may further endanger the species is not permitted.

6.4 Environmental Protection

6.4.1 Research activities shall not harm the natural resources of the country, including the balance and habitats of living organisms (flora, fauna, microorganisms) and the non-living environment (geophysical formations, mountains, rivers, lakes, etc.).

6.4.2 Collection of living specimens is permitted in accordance with RNR research policies, though field work (observation, collection) should not damage the ecology of a natural site.

6.4.3 Where controlled field studies are necessary which require the potential for temporary risk of harm to the natural environment, the Precautionary Approach shall be applied and relevant environmental clearances must be obtained from appropriate authorities such as the National Environment Commission.

6.4.4 Agricultural field studies that involve little or no risk of permanent damage or degradation of a field or natural area are permitted within norms specified by the RNR research policy.

6.5 Protection of Public Society and National Values

6.5.1 Researchers shall not misuse the research findings and information to affect the security and integrity of the people and country.

6.5.2 Researchers shall not exchange research data/information with individuals or groups outside or inside the country in exchange for gifts and rewards that would eventually affect the security and image of the people and country.

6.5.3 Researchers shall not make any judgments, decisions and practices that are detrimental to the welfare, safety and health of the general public.

6.5.4 Researchers shall inform, communicate and educate the society on issues that may be detrimental to the health and safety of the general public. Wherever possible, researchers shall also work towards the enhancement of safety, health and social welfare of both their local and the global community through sustainable practices.

6.5.5 Researchers shall not use any confidential information as a tool for personal gain if such action affects the interests of the public, clients or employers.

6.5.6 Researchers shall maintain a fair and impartial attitude towards the public, employers and clients.

6.5.7 Researchers shall give due consideration to seeking advice and approval for research regarding certain subjects of national, cultural, or spiritual sensitivity that may require scrutiny or permission of officials or representatives of relevant agencies or institutions. These may include:

6.5.7.1 Studies on sacred objects, sites and locations declared protected by the Government.

6.5.7.2 Studies that endanger the spiritual, cultural and social values of the Nation.

6.5.7.3 Studies that could be potentially disrespectful of the institution Monarchy.

6.5.8 Instances of breach of research code of conduct and their consequences are described in Chapter 11: Research Misconduct.

7 Research Code of Conduct – Conflicts of Interest

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

7.1 Purpose

7.1.1 The University is an institution of public trust. Therefore, the faculty must respect that status and carry out their intellectual activities in ways that will not compromise the integrity of the University or that trust. A conflict of interest occurs when there is a divergence between an individual's private interests and his or her professional obligations to the University such that an independent observer might reasonably question whether the individual's professional actions or decisions are determined by considerations of personal financial gain, or other personal interference. A conflict of interest depends on the situation, and not on the character or actions of the individual.

7.1.2 Researchers work hard, and the University acknowledges that their motivation for working hard stems from many sources. Research advances knowledge, leads to discoveries that will benefit individuals and society, furthers professional advancement, and/or results in personal gain and satisfaction. Each of these incentives or interests is commonly recognized as responsible and justifiable. University researchers are allowed to and even encouraged to profit from their work.

7.1.3 Legitimate research interests can create competing responsibilities and lead to conflicts due to competing obligations and interests. Researchers are expected to serve on committees, to train young researchers, to teach, and to review grants and manuscripts at the same time they pursue their own research. Some conflicts of interest cannot and need not be avoided. However, in three crucial areas: financial gain, work commitments, and intellectual and personal matters, the University requires special steps to assure that conflicts do not interfere with the responsible practice of research.

7.1.4 One of the cornerstones of managing potential conflicts of interest is transparency: full disclosure and monitoring of the potential conflict. For the purposes of this policy, the requisite time period for disclosure to a CRC or DRIL is within 30 days of the first indication of potential conflict.

7.2 Financial Conflicts

7.2.1 Background

7.2.1.1 Personal interests and the prospect of financial gain should not improperly influence a researcher's fundamental obligation to truth and honesty. Financial conflicts of interest are situations that create perceived or actual tensions between personal financial gain and adherence to the fundamental values of honesty, accuracy, efficiency, and objectivity.

7.2.1.2 Financial interests are not inherently wrong. Researchers are permitted to benefit financially from their work. The University encourages researchers and Colleges to use copyrights, patents, and licenses to put research ideas to use for the good of the public, subject to the IP

policy. The University maintains that financial interests serve as a way of ensuring that the public's investment in research is used to benefit society and stimulate economic growth.

7.2.2 RGoB and University financial rules – The governing guidance regarding financial conflicts of interest comes from the RGoB and University Financial Rules and Regulations. Relevant portions are summarized here, though this information is fully subject to change based on the latest versions of the above documents.

7.2.2.1 The ownership of research outputs has been entrusted to the University by RGoB to put ideas to work for the overall good of society. Faculty must disclose on a timely basis the creation or discovery of all potentially patentable inventions created or discovered in the course of their University activities or with more than incidental use of University resources. If intellectual property rights are to be claimed, ownership of such inventions is assigned to the University regardless of the source of funding and the inventor will share in royalties earned (see IP policy).

7.2.2.2 Significant financial conflict is defined as: Additional earnings (in cash or in kind) in excess of a researcher's one year's salary income, or equity interests in excess of 5 percent in an entity that stands to benefit from the research. The financial interests of all immediate family members (specifically with regards to the research activities) are included in these figures.

7.2.2.3 Disclosures of potential financial conflicts of interest are also required when the faculty member is involved in a specific transaction, including: gifts; sponsored projects; technology licensing arrangements; protocols that use human subjects, animals or other biological materials; material transfer and collaboration agreements; and certain procurements (e.g., sole source or from a privately-held company). In such cases, review and approval by the CRC will be required prior to entering into the proposed arrangement.

7.2.3 CRCs and DRIL shall, based on their own terms of operation, take responsibility over administrative procedures for:

7.2.3.1 Reporting of significant conflicts before any research is undertaken.

7.2.3.2 Managing, reducing, or eliminating significant financial conflicts of interest.

7.2.3.3 Providing subsequent information on how the conflicts were handled.

7.2.4 Financial interests that are disclosed and deemed to be related to one or more of the faculty member's institutional responsibilities will be further reviewed by the CRC to determine if the financial interest or relationship could have a direct and significant effect on the faculty member's performance of his or her responsibilities. If such a situation exists, the conflict will need to be eliminated or managed according to a plan provided to the faculty member by the CRC. Should a faculty member or other researcher wish to appeal a decision made by the CRC, he or she may present the appeal to the Institute/College Academic Committee. If the IAC/CAC is unable to resolve the issue and all informal or formal processes to the appellant have been exhausted, the appeal may then be presented to the Academic Appeals Committee through its member Secretary.

7.2.5 Professional societies and journal policies – A number of professional societies have issued reports or made recommendations on appropriate ways to handle conflicts of interest. Similarly, more and more journals now require researchers to disclose real or potential financial conflicts. Sometimes disclosure must be made to the journal editor, who decides what, if any, action is needed. Sometimes disclosures must be included in the publication itself. Before submitting an article to a journal for publication, researchers should carefully check and make sure they have followed that publication's conflict of interest policies. Other disclosures, such as in public talks, may also be required.

7.3 Conflicts of Commitment

7.3.1 Conflicts of commitment arise from situations that place competing demands on researchers' time and loyalties. At any time, a researcher might be: working on one or more funded projects; preparing to submit a proposal for a new project; teaching and advising students; attending workshops, trainings, professional meetings, or giving guest lectures; serving as a peer reviewer; sitting on advisory boards; working as a paid consultant. Each of these situations requires time and makes demands on a researcher's University commitments. Care needs to be taken to assure that these commitments do not inappropriately interfere with one another or violate the University's HR or Financial policies.

7.3.2 Allocation of time – Researchers must be careful to follow rules for the allocation of time. The University's rules for how researchers spend their time are given in the HR and Financial manuals, particularly extracurricular time serving as paid consultants, giving paid lectures, or working as an employee in a private company. Although researchers will frequently work on several projects at the same time, in the final analysis primary work obligations must be met. In addition, the time devoted to one project ordinarily cannot be billed to another. At a minimum, University rules require that researchers:

7.3.2.1 Must maintain a significant physical presence on campus throughout each semester they are on active duty.

7.3.2.2 Must not allow other professional activities to detract from their primary allegiance to their College and to the University. For example, a faculty member on full-time active duty must not have significant outside managerial responsibilities or titles that suggest such responsibilities (e.g., chief operating officer), or act as a Principal Investigator on sponsored projects that could be conducted at the University but instead are submitted and managed through another institution (excluding such agreements as approved by DRIL for the benefit of the University).

7.3.2.3 Honour time commitments they have made, such as devoting a specified percentage of time to a grant or contract.

7.3.2.4 Refrain from charging two sources of funding for the same work time. Multiple simultaneous funded projects are acceptable as long as the time commitment to each is clearly distinct.

7.3.2.5 Seek advice if they are unsure whether a particular commitment of time is allowed under the University or RGoB's policies.

7.3.3 Relationships with students

7.3.3.1 Mentors/supervisors should ensure that their advising of students (defined for this policy to include postdoctoral scholars and other trainees) and their supervision of staff are independent of personal interests. Faculty should inform students and colleagues about outside obligations that might influence the free exchange of scholarly information between them and the faculty member.

7.3.3.2 Academic researchers involved in business ventures often have opportunities to hire students. This puts them in a situation where they can hire their own students. As mentors, they have a primary obligation to help students develop into independent researchers. As advisors to companies, their primary obligation is to see promising ideas commercialized. While the two responsibilities can complement one another, they can also be in conflict. Situations such as these create conflicts and should be avoided – the students should take on only one of the two roles.

7.3.4 Use of resources – Researchers may be tempted to use equipment and supplies purchased with public funds to advance private interests. Unless a researcher has permission to use the equipment to support private work, this practice is not appropriate. The equipment can be used for other University work, but it cannot be used for a personal project without permission. It also cannot be used for research that has not been approved. Specifically, researchers may not use University resources or personnel, including facilities, staff, students or other trainees, equipment, or confidential information, except in a purely incidental way, as part of their outside consulting or business activities, for personal reasons, or for any other purposes that are unrelated to the education, research, scholarship, and public service missions of the University.

7.3.5 Disclosure of affiliations – Outside affiliations that create conflicts of interest should be disclosed on research proposals and listed on academic publications. However, University personnel should not inappropriately use their institutional research affiliation to advance their private interests by implying, for example, that private work has the support of their research institution if it does not.

7.3.6 Representing outside entities – The results researchers commercialize in private ventures, such as drugs used in a university hospital, a software programme used in an accounting office, or a consultation service for employees, might be useful for the University. In these cases, the researcher could be the resident expert on the goods and services in question. The University may want the best deal on the goods and services, whereas the researcher is also interested in personal profits, creating a conflict of commitment. In such situations, tendering for goods and services must be done in a fully competitive and transparent way with no advantage or disadvantage to the researcher whose product or service is sought.

7.3.7 Judgments about responsible conduct often rest with the researcher. In making judgments about the best way to deal with institutional conflicts, it is helpful for researchers to consider how others will view the researcher's commitments and the judgment of someone who has no stake in the

outcome. In addition, it is always a good idea, even if it is not required, for researchers to seek advice from an institutional University official such as DRIL or DRIL.

7.4 Personal and Intellectual Conflicts

7.4.1 Researchers are expected to avoid bias in proposing, conducting, reporting, and reviewing research. They therefore should be careful to avoid making judgments or presenting conclusions based solely on personal opinion or affiliations rather than on evidence.

7.4.2 Researchers should serve as reviewers for grants and publications submitted by colleagues and students in a totally objective manner and have an obligation to make judgments based solely on the evidence at hand. If a situation arises in which a conflict of interest may occur (for example the potential reviewer has a close personal relationship with the applicant), the reviewer is required to disclose such conflicts of interest, after which a fair determination will be made as to the level of involvement of the researcher in the review process.

7.4.3 Intellectual conflicts may arise when a researcher holds strong personal views on the importance of a particular area of research or set of research findings. Those views should be disclosed so that others can take them into consideration when judging the researcher's statements (sometimes such opposite or dissenting views could be highly valued). The same is true of strong moral, cultural, or religious convictions that could influence a researcher's scientific opinions. This is particularly true when researchers serve as expert witnesses or advisors.

7.4.4 Researchers must foster an atmosphere of academic freedom by promoting the open and timely exchange of results of scholarly activities. This means responding to all reasonable requests for data, protocols, etc.

7.5 Reporting and Managing Conflicts of Interest

7.5.1 If a researcher has a significant conflict of interest, as defined by RGoB, University, journal, or other policies, it must be reported and managed or eliminated, in cooperation with DRIL and CRCs. "Managing" a conflict means finding a way to assure that the interests do not adversely influence the research. The College Research Committee shall exercise the following for managing conflicts of interest:

7.5.1.1 Require full disclosure of all interests so that others are aware of potential conflicts and can act accordingly.

7.5.1.2 Monitor the research or checking research results for accuracy and objectivity.

7.5.1.3 Remove the person with the conflict from crucial steps in the research process, such as the interpretation of data or participating in a particular review decision.

7.5.2 CRCs shall serve as the primary conflict of interest review committees or appoint independent administrators charged with overseeing conflicts of interest. If a conflict of interest has already occurred that may be considered "misconduct", the procedures given in Chapter 11 shall apply.

7.5.3 If the conflicts cannot be managed and could have an adverse impact on the research, then they must be eliminated, by divesting equity, reducing the income received from the research, assigning supervisory responsibilities to someone else, stepping out of the room when a particular proposal is discussed, or some other action, as recommended by the review committees.

7.5.4 Research administrators, funding agencies, journal editors, and conflict of interest committees, not the researcher, should make final decisions about the management of conflicts of interest. This protects the researcher from charges of acting in her or his own interest and helps assure that the most responsible decisions are made.

8 Research Code of Conduct – Handling Data & Materials

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

8.1 Purpose

Data and materials often take the bulk of researchers' attention, being their most important tools for testing hypothesis, generating results, and arriving at conclusions. Proper data management practices are vital to responsible research. Researchers should take into consideration four important issues before any data are collected: ownership, collection, storage, and sharing. The integrity of data and, by implication, the usefulness of the research it supports, depends on careful attention to detail, from initial planning through final publication.

8.2 Data Ownership

8.2.1 The University – Support for research is typically awarded to the University, not to individual researchers. Even in situations where researchers win individual research funds, the funds are typically tied to that individual's affiliation with the University. The University therefore has ultimate responsibility for budgets, regulatory compliance, contractual obligations, and data management. To assure that the University is able to meet these responsibilities, it claims ownership rights over data collected with funds given to it. At the University, even research projects not funded by specific grants are implicitly supported by the University/College infrastructure. This means that researchers cannot automatically assume that they can take their data with them if they move out of the institution. The University maintains rights and obligations to retain control over the data – this is the default situation, and other scenarios would have to be cleared by written agreement with CRCs and DRIL.

8.2.2 External Funders – Non-University/College funders may stake claims to data collected during the course of research funded by them. Funders provide support for research for different reasons. These different interests translate into different ownership claims. Since the claims of funders can and do vary considerably, researchers must be aware of their obligations to them before they begin collecting data. Written agreements on file with CRCs and DRIL would have to detail the data ownership terms of external funders. If the funder requests ownership of data, this would have to be approved by DRIL. Typically:

8.2.2.1 The government is interested in improving the general health and welfare of society. RGoB gives the University rights to use data collected with public funds as an incentive to put research to use for the public good. Researchers, by reason of their work in collecting and analyzing the data, shall normally publish their work before handing it over to others. In some instances, they may also make the results of the study available, within reasonable bounds, to any citizen upon request (following all ethical norms such as request for privacy as well as quality norms such as validity and reliability of the study at the stage when the request is made).

8.2.2.2 Private companies are interested in profits, along with benefits to society; they may seek to retain the right to the commercial use of data.

8.2.2.3 Philanthropic organizations are interested in advancing particular causes; they may retain or give away ownership rights depending on their interests.

8.2.2.4 With funding, it is important to distinguish between grants and contracts. Under grants, researchers must carry out the research as planned and submit reports, but control of the data remains with the University. Contracts require the researcher to deliver a product or service, which is then usually owned and controlled by the funder. In cases where a contract involving research is about to be signed, it is critical to delineate the terms in advance.

8.2.3 Data sources – Increasingly research subjects and other entities that are the source of data are seeking some control over data derived from them. Countries with unique resources, such as tropical rain forests, individuals with rare medical conditions or special knowledge, and entities with unique databases, may claim ownership of research results based on their data. Research subjects and entities that have or can be the source of important data may no longer be willing to provide or be the source of data without some ownership stake in the end results. Typically, written approval is required before entering into data agreements with entities that would seek to retain ownership stake in the data. RGoB and many of its institutions are themselves highly protective of data sources (for example natural resources and traditional knowledge), and may stake claims to the outputs of the research.

8.2.4 Before any data are collected, ownership issues and the responsibilities that come with them need to be carefully worked out. It is also important to note that in most cases ownership provisions must be approved by the University as the recipient and responsible entity for the administration of research funds. Researchers therefore should not enter into agreements that affect the control and use of data without getting institutional approval. Before undertaking any work, researchers should make sure they can answer the following questions:

8.2.4.1 Who owns the data being collected?

8.2.4.2 What rights does the researcher have to publish the data?

8.2.4.3 Does collecting these data impose any obligations on the researcher or the University?

8.2.5 It shall be the duty of any principal investigator in any research project to comply with the data laws and to ensure that copyright is not breached.

8.3 Data Collection

8.3.1 Appropriate methods – Reliable data are vitally dependent on reliable methods. Although the need for appropriate methods might seem obvious, researchers sometimes use inappropriate statistical tests to evaluate their results. Methods can also be compromised by bias (choosing one method or set of experimental conditions so that a particular conclusion can be drawn) or sloppy technique. Whatever the origin, the use of inappropriate methods in research compromises the integrity of research data and should be avoided. Responsible research is research conducted using appropriate, reliable methods.

8.3.2 Attention to detail – Quality research requires attention to detail. Experiments must be set up properly and the results accurately recorded, interpreted, and published. Obviously, it is not

possible to avoid all mistakes in research. However, some mistakes could lead to allegations of misconduct, and mistakes that end up in publications could be costly to a research career. Since others rely on their work, researchers have a responsibility to make sure their work is carefully undertaken and reported. Research done carefully and efficiently avoids waste of time and resources.

8.3.3 Authorization – Many types of data collection need to be authorized before they can proceed. Researchers have a responsibility to know when permission is needed to collect or use specific data in their research. Whether from the University or from an external source, typically permission is needed to use:

8.3.3.1 Human and animal subjects in research

8.3.3.2 Hazardous materials and biological agents

8.3.3.3 Information contained in some libraries, databases, and archives

8.3.3.4 Information posted on some Web sites

8.3.3.5 Published photographs and other published information

8.3.3.6 Other copyrighted or patented processes or materials

8.3.4 Recording – The final step in data collection is the physical process of recording the data in some type of notebook (hard copy), computer file (electronic copy), or other permanent "record" of the work done. The physical formats for recording data vary considerably, from measurements or observations to photographs or interview tapes. However data are recorded, it is important to keep in mind that the purpose of any record is to document what was actually done and the results that were achieved.

8.3.4.1 Throughout their work, researchers shall keep clear and accurate records of the procedures followed and the approval granted during the research process, including records of interim results obtained as well as of the final research outcomes.

8.3.4.2 To have and hold their value, research data must be properly recorded. In recording data, two simple rules should be kept in mind to avoid problems later, should someone ask about or question the work:

8.3.4.2.1 Hard-copy evidence should be entered into a numbered, bound notebook so that there is no question later about the date the experiment was run, the order in which the data were collected, or the results achieved. It is not recommended to use loose-leaf notebooks or simply collect pages of evidence in a file. Records in a bound notebook should not be changed without noting the date and reasons for the change.

8.3.4.2.2 Electronic evidence should be validated in some way to assure that it was actually recorded on a particular date and not changed at some later date (the date stamp on electronic files can be changed and is an unreliable indicator). If data are collected electronically, researchers must be able to demonstrate that they are valid and have not been changed.

8.4 Data Protection

8.4.1 Once collected, data must be properly protected. They may be needed later to confirm research findings, to establish priority, or to be reanalyzed by other researchers. Over time, data, as the currency of research, become an investment in research. If the data are not properly protected, the investment, whether public or private, could become worthless.

8.4.2 Data storage – The responsible handling of data begins with proper storage and protection from accidental damage, loss, or theft:

8.4.2.1 Lab notebooks should be stored in a safe place.

8.4.2.2 Computer files should be backed up and the backup data saved in a secure place that is physically removed from the original data.

8.4.2.3 Samples should be appropriately saved so that they will not degrade over time. For samples that are naturally degradable, efforts should be taken to record, document, and protect data extracted from them prior to their degradation.

8.4.2.4 Care should be taken to reduce the risk of fire, flood, and other catastrophic events.

8.4.3 Confidentiality – Some data are collected with the understanding that only authorized individuals will use them for specific purposes. In such cases, care needs to be taken to assure that privacy agreements are honoured. This is particularly true of data that contain personal information that can be linked to specific individuals. It is also true of confidential information about protected processes and materials. If a company shares confidential data about a process with a researcher prior to seeking a patent on that process, the researcher must take care to make sure the data are kept confidential.

8.4.3.1 Data that are subject to privacy restrictions must be stored in a safe place that is accessible only to authorized personnel. Using random codes to identify individual subjects, rather than names or commonly used ID numbers (such as citizenship ID, license number, enrolment number, employment ID), can also further protect private information. Access to these codes can then be restricted to provide a double layer of protection. Whatever the method used to protect private or confidential information, the researcher who collects or uses the information has the primary responsibility for its protection. Unless otherwise agreed in writing, privacy must be maintained in perpetuity – a researcher that may, over time wish to give up control of the data, can transfer the responsibility to others or destroy any private details such as identifiable information.

8.4.4 Period of retention – Data should be retained for a reasonable period of time to allow other researchers to check results or to use the data for other purposes. The University's minimum retention period is 5 years following the submission of a report on the research. Researchers shall securely store all primary data as the basis for publications for at least 5 years unless otherwise required by contractual terms or the guidance of relevant professional bodies in a paper and/ or electronic form, as appropriate, after completion of a research project. Other agencies or collaborating partners might have different requirements. Best practices in the field should be followed for data retention or, when called for, data destruction.

8.4.4.1 Given the different reasons data could be useful over long periods of time, even for historical value in the future, researchers should give some thought to retaining data longer than the University minimum period. How long is reasonable will vary from field to field and institution to institution. The data retention should balance the best interests of society with those of the research institution and the individual researcher. Before throwing out notebooks, cleaning out files, or erasing computer memory, researchers should give careful consideration to who might benefit from or ask to see their data in the future.

8.4.4.2 University researchers discontinuing their relationship with the University within the data retention minimum timeframe must deposit their data with other University associates.

8.4.4.3 CRCs are encouraged to support centralized data retention in a College.

8.5 Data Sharing

8.5.1 The University is a public institution, and therefore obliges its researchers to share data with any reasonable requests. However, researchers are not expected to and in most instances should not release preliminary data, that is, data that have not been carefully checked and validated. The one exception to this rule would be preliminary data that could potentially benefit the public. A researcher who has strong preliminary indications of a major threat to public health, such as unexpected side effects from a drug or an unrecognized environmental health problem, may have good reason to share this information with the public and other researchers before it is fully validated. Data that have no immediate public benefit, such as the discovery of a basic scientific process that could eventually lead to public benefits, in most instances is best held until the researcher is confident that the results will stand. For finished studies, there is, in general, considerable support for sharing data with other researchers and the public unless there are compelling reasons for confidentiality.

8.5.2 Researchers can withhold confirmed or validated data until they have had time to establish their priority for their work through publication or, in rare cases, a public announcement. They do not have to release data on a day-to-day or step-by-step basis for other researchers to use, even though this might speed the advance of knowledge. Provided no agreements have been made to the contrary, keeping data confidential prior to publication is a commonly accepted practice that most researchers and funding agencies accept.

8.5.3 Once a researcher has published the results of an experiment, it is generally expected that all the information about that experiment, including the final data, should be freely available for other researchers to check and use, though ownership remains with the data creator. Some journals formally require that the data published in articles be available to other researchers upon request or stored in public databases. This is also the policy of the University. In the specific case of government funded research that is used in setting policies that have the effect of informing law, research data must be made available in response to any request for information, in the spirit of "Freedom of Information". Proper acknowledgment should be expected and given for use of data generated by others.

8.6 Tools, Reagents, Specimens, and Equipment

8.6.1 Researchers shall make appropriate use of the equipments/instruments/apparatuses for research works with due care and concern for their proper care and maintenance.

8.6.2 The equipments/apparatuses/instruments/other associated gadgets and any samples or specimens collected shall be the sole property of the University, institute, department, division or the funding agency as the case may be (see Chapter 13 on University Property).

9 Research Code of Conduct – Leadership, Mentoring, and Training

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

9.1 Purpose

The University encourages researchers to work in teams when conducting their research activities, for mutual benefit and in support of the University's vision as a favourable environment for professional development and capacity building. In this manner, the process of the research work becomes as valuable as its potential outputs. Leaders at all levels, from overhead managers to team leaders have certain duties commensurate with their positions beyond simply executing a research proposal. Moreover, there are several important considerations for the responsible and successful conduct of individual mentor-trainee relationships, for both parties.

9.2 Research Leadership

9.2.1 The RIC, IACs, and CRCs shall ensure that appropriate leadership and direction of research and supervision of researchers is provided. Training in supervisory skills shall be provided where appropriate.

9.2.2 PIs shall ensure the appropriate direction of research and its financial propriety.

9.2.3 Research group leaders shall ensure that good research practices including documentation of results, peer review of research, regular discussion and seminars, are encouraged and shall ensure that adequate supervision exists at all relevant levels.

9.2.4 Research group leaders and senior researchers shall groom and develop the research leadership skills of their immediate subordinates by involving them appropriately.

9.2.5 Experienced researchers and their senior colleagues shall ensure that a research culture of mutual cooperation is created in which all members of a research team are encouraged to develop their skills and in which open exchange of research ideas is fostered.

9.2.6 Researchers shall regard the tutelage of students as a trust conferred by society for the promotion of the student's learning and professional development. Each student shall be treated respectfully and without exploitation.

9.2.7 Researcher leaders shall treat their team members with respect for their professionalism and concern for their well-being, and provide them with a safe, congenial working environment, fair compensation and proper acknowledgment of their scientific contributions.

9.2.8 Researchers shall treat their research associates with respect, encourage them, learn with them, share ideas honestly, and give credit for their contributions.

9.3 Mentor and Trainee Responsibilities

9.3.1 While conducting investigations, researchers often assume the added role of mentors to trainees. The University considers this an essential duty of its more senior researchers.

9.3.2 Mentor-trainee relationships begin when an experienced and a novice researcher agree to work together. Typically, the experienced researcher has knowledge and skills that the novice researcher needs to learn. He/she may also provide support for the trainee's research and education. Novice researchers, whether graduate student, postdoctoral student (postdoc), research staff, or junior researcher, provide ideas and effort to the research work. Under a productive relationship, the two work together to advance knowledge and put ideas to work. When the partnership breaks down, it is often because one of the parties is not getting from the relationship they expected.

9.3.3 Most of the decisions about responsible mentoring are left to the individuals involved. Good mentoring should begin with:

9.3.3.1 A clear understanding of mutual responsibilities.

9.3.3.2 A commitment to maintain a productive and supportive research environment.

9.3.3.3 Proper supervision and review.

9.3.3.4 An understanding that the main purpose of the partnership is to prepare trainees to become successful researchers.

9.3.4 Knowing the importance of personal commitments, researchers should carefully consider what responsibilities they have to trainees before they take on the essential task of training new researchers. Trainees, in turn, should be aware of their responsibilities to mentors before accepting a position in a research team.

9.3.5 Basic responsibilities for Mentors – Mentors should ensure that they:

9.3.5.1 Provide a safe working environment that respects the physical, psychological, and emotional well-being of the trainees

9.3.5.2 Invest adequate time and resources on trainees.

9.3.5.3 Take the lead in raising issues that are of concern to the trainee as well as those that are of interest to the mentor.

9.3.5.4 Develop written guidance on a research team's standard practices.

9.3.5.5 Communicate understanding of the following to trainees:

9.3.5.5.1 How much time they will be expected to spend on their mentor's research.

9.3.5.5.2 The criteria that will be used for judging performance and form the basis of letters of recommendation.

9.3.5.5.3 How responsibilities are shared or divided in the research setting.

9.3.5.5.4 Standard operating procedures, such as the way data are recorded and interpreted.

9.3.5.5.5 How credit is assigned, that is, how authorship and ownership are established.

9.3.6 Basic responsibilities of Trainees – Trainees should ensure that they:

9.3.6.1 Do assigned work in a conscientious way and report its progress as agreed.

9.3.6.2 Respect the authority of others working in the research setting.

9.3.6.3 Follow research regulations and research protocols.

9.3.6.4 Abide by agreements established for authorship and ownership.

9.3.6.5 Understand that time and resources are being invested on them, and respect this time and use resources responsibly

9.3.6.6 Keep their mentors informed about changing research interests or other circumstances that could affect their work.

9.3.7 Research environment – Different mentors establish different research environments. Some groups are highly competitive; others emphasize cooperation. Some mentors are intimately involved in all aspects of the projects they supervise; others delegate authority. Similarly, different researchers like to work in different environments. Some enjoy independence; others like to have close working relationships with colleagues. Some thrive in competitive environments; others prefer cooperative working relationships. Although there is no single formula for a "good" research environment, there are some fundamentals that mentors and trainees should keep in mind:

9.3.7.1 Equal treatment – Research ability is not tied to race, gender, ethnicity, or sexual orientation. These factors have no bearing on one's success as a researcher. Therefore, research environments should not put someone at a disadvantage based on who they are. If competition is encouraged in a way that puts any distinguishable group at a significant disadvantage, it is not acceptable. All students should be subject to the same level of supervision and scrutiny. Aside from legal obligations to avoid discrimination in the workplace, researchers have a professional obligation to work to assure equal access to their profession, particularly if their work is publicly supported.

9.3.7.2 Professional practice – Researchers should maintain research environments that respect accepted practices for the responsible conduct of research. Trainees learn by example as well as formal training. Mentors therefore have an obligation to maintain research environments that set appropriate examples. They should not themselves make unreasonable authorship demands, fail to honour agreements made with trainees, inappropriately cut corners in research, or engage in other practices that run counter to accepted practices for the responsible conduct of research.

9.3.7.3 Training in the responsible conduct of research (RCR) – RCR training should be integral to the research environment, with heavy emphasis given to the role the mentor plays in providing this training. Certain types of funding may even require this for all beneficiaries of the award.

9.3.8 Supervision and review of trainees

9.3.8.1 When mentors accept trainees, they assume responsibility for assuring that the persons under their supervision are appropriately and properly trained. This responsibility is particularly important in research since for the most part there are no other checks on the qualifications of new researchers. They are judged primarily by the quality of their research, which should be best known to the person directly supervising their work. A mentor needs to:

9.3.8.1.1 Assure proper instruction in research methods.

9.3.8.1.2 Foster the intellectual development of the trainee.

9.3.8.1.3 Impart an understanding of responsible research practices.

9.3.8.1.4 Routinely check to make sure the trainee develops into a responsible researcher.

9.3.8.2 Mentors do not need necessarily to check all aspects of a trainee's work directly. In larger research teams, a hierarchy may be possible where postdocs supervise graduate students, who may help supervise undergraduates. Laboratory technicians or other staff might teach specific laboratory skills. However, the ultimate responsibility for training rests with the mentor.

9.3.8.3 Proper supervision and review play an important role in quality control. Trainees can make mistakes. Some may deliberately falsify or fabricate data. Mentors should review work done under their supervision carefully enough to assure that it is well done and accurate. This can be accomplished by:

9.3.8.3.1 Reviewing laboratory notebooks and other compilations of data.

9.3.8.3.2 Reading manuscripts prepared by trainees carefully to assure that they are accurate, well-reasoned, and give proper credit to others.

9.3.8.3.3 Meeting with trainees on a regular basis to keep in touch with the work they are doing.

9.3.8.3.4 Encouraging trainees to present and discuss data at group meetings or other informal venues.

9.3.8.4 Performance reporting and management should be done according to the University-wide and College HR policies in the case of supervision of junior faculty, and according to the Research Degrees Framework in the case of supervision of research degree students. In general, mentors and trainees should agree in advance on certain key performance indicators and benchmarks/targets for the trainee to achieve. The trainee should take an active role in scheduling appointments for progress reporting towards the preset targets.

9.3.9 Trainee transition to independent researcher

9.3.9.1 The ultimate goal of research training is to produce independent researchers who can establish their own research programs, take on trainees, and help research-dependent disciplines grow. This means that the mentor's final responsibility to trainees is to help them get established as independent young researchers.

9.3.9.2 Researchers such as postdocs and some PhD students are usually prepared or are preparing to undertake independent work, and yet they are still working under someone else's supervision. Faculty who supervise postdocs and highly independent PhD students should carefully work out their partnership terms. Some supervision is still necessary, but not as much for postdocs as for graduate students. In fact, postdocs may have their own funding and assume all the duties of a principal investigator, even if for administrative purposes their funding comes through their mentor. They may deserve first authorship on all of their papers, even though the mentor was involved in the research. Most importantly, they should be encouraged to develop the independence and record needed to get their own research careers started, thereby paying back society's investment in years of research training and the student's investment in her or his own career.

10 Research Code of Conduct: Professional Research Duties

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10.1 Purpose

In the course of professional researchers' research work, they will come across additional responsibilities that are common in the career of every research professional. These include collaborating with partners, publishing and disseminating their findings, and serving as peer reviewers. When encountering these situations, the University requires its researchers to adhere to the guidelines given herein.

10.2 Collaborative Research

10.2.1 Researchers increasingly collaborate with colleagues who have the expertise and/or resources needed to carry out a particular project. Collaborations can be as simple as one researcher sharing materials, data, or techniques with another researcher. They can be as complex as multi-institute National studies that involve academic research centres, government organizations, NGOs, private partners, and for-profit companies. General considerations / best practices for collaborations are detailed here, though specific administrative procedures for collaborations within and outside the University are detailed in Chapter 16 (Sections 16.2, 16.3, 16.4 and 16.5).

10.2.2 Any project that has more than one person working on it requires some collaboration, i.e., working together. In such a project, one person, commonly called the "principal investigator" or PI, is in charge, and others work under the leadership of the PI. In this section, the focus is more on groups of researchers who are all more or less equal partners working on a common, "collaborative" project, but many of the principles still apply in hierarchically structured research teams.

10.2.3 In collaborative projects, researchers continue to have the responsibilities discussed earlier, but they assume some additional responsibilities stemming from collaborative relationships. These additional responsibilities arise from the added burdens of the increasingly complex roles and relationships; common, but not necessarily identical, interests; management requirements; and cultural differences inherent in any large project but especially in collaborative projects. Special attention to these added burdens can help keep collaborative projects running smoothly.

10.2.4 Roles and Relationships

10.2.4.1 Effective collaboration begins with a clear understanding of roles and relationships, which should begin the day the collaboration is established by discussing and reaching agreement on the details of the collaborative relations. Clear understandings in advance are the best way to avoid complications and disagreements later in a collaboration. Before any work is undertaken, there should be some common understanding of:

10.2.4.1.1 The goals of the project and anticipated outcomes.

10.2.4.1.2 The role each partner in the collaboration will play.

10.2.4.1.3 How data will be collected, stored, and shared.

10.2.4.1.4 How changes in the research design will be made.

10.2.4.1.5 Who will be responsible for drafting publications.

10.2.4.1.6 The criteria that will be used to identify and rank contributing authors.

10.2.4.1.7 Who will be responsible for submitting reports and meeting other requirements.

10.2.4.1.8 Who will be responsible for or have the authority to speak publicly for the collaboration.

10.2.4.1.9 How intellectual property rights and ownership issues will be resolved.

10.2.4.1.10 How the terms of the collaboration can be adjusted as necessary.

10.2.4.1.11 When the collaboration will end and the project will wrap up.

10.2.4.2 Obviously, situations can arise during a collaboration that could not have been anticipated in advance. For this reason, it is important for effective communication to continue throughout any collaborative project. Collaborators should:

10.2.4.2.1 Share findings with colleagues in the collaboration and pay attention to what others are doing.

10.2.4.2.2 Report and discuss problems as well as findings.

10.2.4.2.3 Make other collaborators aware of any important changes, such as changes in key personnel.

10.2.4.2.4 Share related news and developments so that everyone in the collaboration is equally knowledgeable about important information.

10.2.5 Management

10.2.5.1 In collaborative research, the partners in the collaboration share responsibilities. Under these circumstances, an effective management plan is essential. In addition to effective communication, collaborative projects should have effective management plans that cover the following.

10.2.5.1.1 Financial management – The expenditure of research funds is subject to financial management rules issued by the University, by RGoB, and by other sponsoring bodies. Therefore, collaborative projects must be managed in ways that assure that expenditures by all collaborators are in compliance, from those incurred by the primary investigators working at major research institutions to survey workers or clinicians working in the field.

10.2.5.1.2 Training and Supervision – Wherever they work, research staff should be properly trained and supervised. In some instances the training is mandatory. Anyone who works with research animals or human subjects must have formal training. The same is true of staff who work with hazardous substances or biohazards. These requirements extend to everyone working on a collaborative

project, whether they are at a different institution, or even another country. Management plans for collaborative projects therefore should include the training and supervision of all researchers and staff working on the project.

10.2.5.1.3 Formal agreements – Some aspects of collaborative projects must be worked out in advance in formal agreements. For example, when research is carried out in more than one place, it is sometimes necessary to transfer materials from one institution to another. Since many things are carefully controlled, to protect either safety or ownership, the terms of transfer should be carefully spelled out, including who owns the knowledge, materials or data, the use to which they can be put, and proper acknowledgment of the source. These agreements help protect the interests of the collaborators by assuring that ownership will be respected and that the materials will be properly used.

10.2.5.1.4 Compliance – Research institutions must in one way or another certify that they are in compliance with specific research regulations. When research institutions are involved in collaborative projects, an institution's responsibility for compliance can extend to other institutions. If the other institution is a major university with a large research portfolio, that institution most likely already has a compliance plan in place. However, if the other institution does not do a great deal of research or is located in a more developing country, it may not have evolved modern compliance responsibilities. Management plans for collaborative projects must take into account the need for meeting compliance responsibilities throughout the project sites and not just at one institution.

10.2.6 Different research settings

10.2.6.1 Collaborative projects encourage researchers to pursue interdisciplinary research. For the most part, this follows the same rules and practices as individual disciplinary research. There are times, however, when researchers in different fields bring different practices or expectations to a project. When this happens, researchers might think of adopting two common-sense rules:

10.2.6.1.1 Do not ignore any responsibilities.

10.2.6.1.2 When there are choices about appropriate action, select the most demanding option. When in doubt, it makes sense to seek the highest rather than the lowest denominator. This means being more conservative and following the stricter norms rather than the lenient ones.

10.2.6.2 Different expectations can enter a project in a number of ways, especially when judgments about responsible practice are involved. For example, collaborators at another research institution may allow researchers to earn larger amounts through consulting or other outside employment before they have to declare a potential conflict of interest. If the University's threshold is lower, researchers will have to follow the University guideline. Different institutions also manage conflicts of interest in different ways, from supervision

or reporting to outright prohibition. When there are differences in reporting policy, the prudent course of action is to go with the lowest financial threshold and accept the most stringent management plan, even though some researchers working on the collaborative project may not be required to do so.

10.2.6.3 Ownership issues also raise questions about which rules to follow. One party to a collaboration may have no interest in reporting a promising idea for development; another may feel under an obligation to do so, following either a university's or national policy. There may also be different understandings among the different institutions that are part of a collaboration about what constitutes disclosable information and who owns the information once it is disclosed. Given the consequences of disputes that can erupt in these situations, it is essential that every collaborative project settle disclosure and ownership issues early in the project before disputes arise.

10.2.6.4 There may be significant differences in the way researchers in different fields and different laboratories carry out the routine business of collecting data and publishing results. Some still collect data in bound laboratory notebooks; others use computers. In some fields, it is common practice to circulate early results in newsletters and/or abstracts; in other fields, journal publications are the preferred mode of communication. Different fields have different ways and standards for listing authors. These and other differences should be addressed openly and early in any collaboration to assure that misunderstandings do not arise later over data collection and publication.

10.3 Dissemination and Publication

10.3.1 Researchers share the results of their works with colleagues and the public in a variety of ways. Early results are usually shared during group meetings, in seminars, and at professional meetings. Final results are usually communicated to others through scholarly articles and books. Public communication takes place through press releases, public announcements, newspaper articles, and public testimony. The University intends that all work conducted by its researchers ultimately be widely disseminated.

10.3.2 Some of the ways of communicating research results (i.e., of publication) are well structured and controlled; others are informal and have few controls. Whether structured or informal, controlled or free ranging, responsible publication in research should ideally meet some minimum standards. At minimum, University researchers shall:

10.3.2.1 Present a full and fair description of the work undertaken.

10.3.2.2 Present an accurate report of the results.

10.3.2.3 Provide an honest and open assessment of the findings.

10.3.2.4 Make every effort to ensure that research is peer-reviewed prior to it being published or disseminated.

10.3.2.5 Specify and properly acknowledge the contributions of formal collaborators and all others who directly or indirectly assisted/supported the research.

10.3.2.6 Acknowledge all funding sources in any publication or publicity.

10.3.3 In assessing the completeness of any publications, researchers should generally have the following elements (though the exact formatting in various reputable publishing venues may differ):

10.3.3.1 Abstract – Researchers rely on abstracts to point them to important developments and findings. Abstracts summarize the content of publications in sufficient detail to allow other researchers to assess relevance to their own work. Abstracts, therefore, should neither understate nor overstate the importance of findings. Negative results that might be important to other researchers or the public should be mentioned. The data presented in the abstract should be the same as the data presented in the body of the publication. To ensure completeness and accuracy, many journals now use structured abstracts. This assures that all of the key elements of the publication are mentioned and easily identified.

10.3.3.2 Introduction - This provides necessary context for the research problem. Based on a critical review of the literature (theoretical or empirical) related to the research undertaken, it briefly highlights the current status of the field and any major gaps in knowledge that need additional research. Following a brief historical overview including reference to the most significant publications relevant to the topic, the research question is placed in the context of a current, focused, and active research area. The introduction can conclude with how the authors' research described in the paper addresses and gap in knowledge highlighted earlier.

10.3.3.3 Method – Researchers cannot check and build on the work of others without knowing how it was conducted. Methods therefore should be described in sufficient detail to allow other researchers to replicate them. When researchers use well-established methods, this section of a publication can be shortened, provided appropriate references are given to a full description of the methods along with any changes that have been made. New or unique methods should be described in more detail to allow other researchers to replicate the work.

10.3.3.4 Results – Research results should be reported in sufficient detail to allow other researchers to draw their own conclusions about the work. This does not mean that every piece of recorded data should be reported. Researchers can and must process their raw data before publication (to keep publications to a reasonable size if for no other reason). However, results should not be left out just because they do not agree with the conclusions the authors would like to reach – even negative results should be mentioned. The results section should represent a complete summary of what was discovered, leaving interpretations for the closing discussion.

10.3.3.5 Discussion – Researchers can and should evaluate the significance of their findings under discussion, also called conclusion or summary. This portion of a publication helps those who are less familiar with the field understand the importance of the findings. It also provides a venue for identifying unresolved problems and future research needs. Since the discussion is read by individuals who may not be able to evaluate its validity, it is particularly important that authors avoid bias and one-sided reporting in this section. Cautions and other interpretations should be mentioned along with the limitations of the study to provide a balanced view of the reported results. Review articles (articles that survey research findings in particular areas) should make an honest effort to cover all relevant work. It is not always easy to recognize one's own biases, which is a good

reason to ask colleagues to read and comment on manuscripts before they are submitted for publication. Discussion should normally be informed by perspectives and insights drawn from a sound review of literature on relevant previous works.

10.3.3.6 Notes and acknowledgments – Notes and acknowledgments should be used to place publications in context and to give credit to others for their ideas, support, and work. Notes (footnotes or endnotes) expand on a point made in the main text of the paper without disrupting the flow of the text and going off on a tangent, while acknowledgments recognize any assistance provided by others that was important to the work. They serve to: provide support for important statements of fact or assumptions, document the work of others used in the publication, point to additional reading and resources, and recognize the support of funding agencies or colleagues and staff who do not qualify as authors. Since others rely on and trust this information, it, along with every other element of a responsible publication, should be fair and accurate.

10.3.3.7 References – Generally, this section should consist of author's surname or second name, initials, year of publication, title of article, title of the book, paper or periodical, volume number, issue, and page numbers. All references should be carefully cross-checked; it is the author's responsibility to ensure that references are correct. Only citations from the text should be listed in the References section.

10.3.4 Authorship

10.3.4.1 The names that appear at the beginning of a paper serve the purpose of letting others know who conducted the research and should get credit for it. It is important to know who conducted the research in case there are questions about methods, data, and the interpretation of results. Likewise, the credit derived from publications is often used to determine a researcher's worth. Researchers are valued and promoted in accordance with the quality and quantity of their research publications. Consequently, the authors listed on papers should fairly and accurately represent the person or persons responsible for the work in question.

10.3.4.2 Contribution – The exact guidelines/best practices may vary by field or journal, but authorship is generally limited to individuals who make significant contributions to the work that is reported. This includes anyone who:

10.3.4.2.1 Was intimately involved in the conception and design of the research. This generally means the supervisor/PI is typically included as an author in their trainee's publication.

10.3.4.2.2 Assumed responsibility for data collection and interpretation.

10.3.4.2.3 Participated in drafting the publication.

10.3.4.2.4 Approved the final version of the publication.

10.3.4.3 The widely accepted Uniform Requirements for Manuscripts Submitted to Biomedical Journals, authored by the International Committee of Medical Journal Editors (ICMJE), sets a high standard for authorship. It recommends limiting authorship to persons who contribute to the conception and design of the work or to data collection and interpretation and, in addition, play an important role in drafting and approving the final publication.

Anyone who plays a lesser role can be listed under acknowledgments but not at the beginning of the paper as an author.

10.3.4.4 Practices for determining authors vary considerably by discipline and even by individual research teams. This places most of the responsibility for decisions about authorship on the researchers who participated in the work reported in each publication. In collaborative research, these decisions must be made early in any project, to avoid misunderstandings and later disputes about authorship. Some journals have specific rules for listing authors; others do not, again placing most of the responsibility for this decision on the authors themselves.

10.3.4.5 Any publication arising from collaborative research should be a result of consultation and mutual agreement among all members of the research team. No member of the research team may publish papers based on the work without consulting the other members including, without exception, the Principal Investigator/Lead Researcher.

10.3.4.6 Importance – Authors are usually listed in their order of importance, with the designation as first author carrying special weight, although practices again vary by discipline. Academic institutions generally do not consider faculty research work to have been substantial until they have been listed as first author on one or more papers. Although there are no fixed rules on what is considered the most "important" aspect of a project – whether it is the concept or design, the most time spent on data collection, or being the Principal Investigator, the contributions of each author should normally be assessed in terms of the intellectual intensity and significance of the work.

10.3.4.6.1 The University recommends that the Principal Investigator be the Corresponding Author, listed according to the authorship convention in their field. The researcher with the next most significant contribution should be listed according to that convention. In case of a student-supervisor project, the supervisor and the student shall be accordingly. The supervisor might typically be listed as the principal author on many publications coming out from his/her research programme. In cases where a supervised research student has a substantially independent research project with only tangential relation to the supervisor (as may be the case for some PhD or postdoctoral students), he/she may be a Principal Investigator and Corresponding Author.

10.3.4.6.2 Middle authors would be all other team members and collaborators listed in order of importance.

10.3.4.6.3 The order of authorship should be a joint decision of the co-authors. Authors should be prepared to explain the order in which authors are listed.

10.3.4.6.4 In select cases where two or more authors have had exactly equivalent contributions, both may be listed as "first" authors, usually by denoting with a footnote that there was equal contribution. The order of the names of equivalent contributors can be done alphabetically or by mutual agreement.

10.3.4.7 Corresponding or primary author – Many journals now require one author, called the corresponding or primary author, to assume responsibility for all aspects of a publication, including: the accuracy of the data, the names listed as authors (all deserve authorship and no one has been neglected), approval of the final draft by all authors, and handling all correspondence and responding to inquiries. In accepting this responsibility, corresponding authors should take special note of the fact that they are acting on behalf of their colleagues. Any mistakes they make or fail to catch will affect their colleagues' as well as their own careers. Typically, Principal Investigators should be the corresponding authors.

10.3.4.8 All authors should clearly indicate their affiliations at the time the research was conducted, and may choose to also include their present affiliations as well.

10.3.5 Improper Practices

10.3.5.1 The University values publication quality more than quantity. The number of articles published should not be used as a primary measure of productivity and ability, particularly if any are not peer-reviewed or are otherwise unsubstantial. Researchers should not seek to artificially inflate their publication quantity by improper means.

10.3.5.1.1 Honorary authorship – The practice of listing undeserving authors on publications, called "honorary" authorship, is widely condemned and in the extreme considered by some to constitute a form of research misconduct. It is not appropriate to list researchers on publications solely because (for example) they: are the chair of the department or programme in which the research was conducted, provided funding for the research, are the leading researcher in the area, provided reagents, or served as a mentor to the primary author.

10.3.5.1.2 Ghost authorship – The practice of hiring a person to undertake major editing or rewriting of a manuscript by a credited author whose input in the published work is minimal. A serious case of ghost writing occurs when a credited author's published work is mostly done by an anonymous person who does most of the writing while the credited author only provides ideas, concepts or stories, or only provides comments on a completed work. University faculty should not artificially inflate their publication profile through little or no intellectual effort of their own.

10.3.5.1.3 Salami publication – Salami publication (sometimes called bologna or trivial publication) is the practice of dividing one significant piece of research into a number of small units, simply to increase the number of publications. This practice may distort the value of the work by increasing the number of studies that appear to support it. It also wastes valuable time and resources. Before an article is published, it is reviewed, edited, and in one form or another prepared for publication. After publication it is entered into indexes and databases. Libraries and individuals purchase the journal in which it is published. If the same information could be summarized in one article as opposed to two, three, or more, everyone involved, from the publishers to libraries and the researchers who have to keep up to date on current information, benefits. Researchers therefore should avoid trivial or salami publication.

10.3.5.1.4 Duplicate publication – Duplicate publication is the practice of publishing the same information a second time without acknowledging the first publication. This practice not only wastes time and resources but can also distort the research record, and is a type of plagiarism.

10.3.5.2 Premature public statements – Academic or scholarly publication practices are designed to assure that the information conveyed to broader audiences through these practices is accurate and fairly presented. While the system is not foolproof and erroneous or biased information is from time to time published, standard publication practices do serve an important quality control role in research. Accordingly, researchers should follow standard publication practices when making research results public and not issue premature public statements about their work before it has been reviewed. From time to time there may be overriding circumstances, such as early indications of a significant threat to public health or safety, but for the most part research results should be made public only after they have been carefully reviewed and properly prepared for publication. Exceptions to this may be conference presentations, which may not always meet the quality criteria used for peer-reviewed publications but the researcher may choose to make one's conclusions public. The same applies to invited presentations which are not always peer reviewed.

10.3.6 Amendments to published work

10.3.6.1 Researchers should take every means to ensure their work is accurately represented in a publication in the first place. However, a researcher should follow up on errors in the work or claims made regarding misconduct, and if necessary, pursue an amendment (erratum, corrigendum, addendum, retraction, or removal).

10.4 Peer Review

10.4.1 Peer review is the evaluation of work by colleagues with similar knowledge and experience. It is an essential component of research and the self-regulation of professions, and a duty of University faculty.

10.4.2 Peer review may be utilized for making a variety of important decisions about research, including:

10.4.2.1 Which projects to fund (grant reviews)

10.4.2.2 Which research findings to publish (manuscript reviews)

10.4.2.3 Which scholars to hire and promote; how well student research is progressing (personnel reviews)

10.4.2.4 Which research is reliable (literature reviews and expert testimony)

10.4.3 The quality of the decisions made in each case depends heavily on the quality of peer review. Peer review can make or break professional careers and directly influence public policy. The fate of entire research programs, health initiatives, or environmental and safety regulations can rest on peer assessment of proposed or completed research projects. For peer review to work, it must be timely, thorough, constructive, free from personal bias, and respectful of the need for confidentiality.

10.4.4 Researchers who serve as peer reviewers should be mindful of the public as well as the professional consequences of their evaluations and exercise special care when making these evaluations.

10.4.5 Editors, research programme managers, research coordinators, and others who rely on peer review to make decisions generally provide a deadline for getting the review done when they first contact reviewers. Anyone who agrees to take on a peer review assignment under these conditions should meet the proposed deadline.

10.4.6 Compensation is not generally a part of peer-review, but rather a universally reciprocated unwritten agreement of participation by academics. However, if the University or Colleges request numerous reviews requiring a large input of time from some individuals repeatedly, some compensation may be offered.

10.4.7 Peers who are asked to make judgments about the quality of a proposed or completed project must do their best to determine whether the work they have been asked to review makes sense, is internally consistent, and conforms to the practices of their field of research based on the information presented. This includes:

10.4.7.1 Assessing whether the research methods are appropriate.

10.4.7.2 Checking calculations and/or confirming the logic of important arguments.

10.4.7.3 Making sure the conclusions are supported by the evidence presented.

10.4.7.4 Confirming that the relevant literature has been consulted and cited.

10.4.8 Research that conforms to accepted practices can still have problems – these problems should also be considered when doing an evaluation. For example, research quality can be compromised by:

10.4.8.1 Careless mistakes made in reporting data and/or listing citations.

10.4.8.2 The deliberate fabrication and falsification of data.

10.4.8.3 Improper use of material by others (plagiarism).

10.4.8.4 Inaccurate reporting of conflicts of interest, contributors/authors.

10.4.8.5 The failure to mention important prior work, either by others or by the researcher submitting a paper for publication.

10.4.9 Unless given permission to do so, reviewers should not discuss the work they are reviewing with the authors or anyone else. In many cases, reviews are "blind" (no author identification), so reviewers could not check with authors even if they wanted to.

10.4.10 Peer review constitutes a "seal of approval" by the community at large. It is strongly recommended that a reviewer take the duty seriously and do the review thoroughly in order to help uphold the state of the field.

11 Research Misconduct

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

11.1 Purpose

11.1.1 The University aims to enable an environment that promotes responsible conduct of research. Unethical behaviour in research and scholarship erodes the foundation of academic enterprise. Moreover, being founded by and functioning under a Royal Charter, misconduct within the University reflects poorly on the Kingdom as a whole. Misconduct could also undermine the important human bonds between members of the University. A shared understanding of expectations and responsibilities is, therefore, critical, not only to the quality of the research enterprise but also to the collegial life of the University community. If, unfortunately, misconduct does occur, in whatever the form, it is important for researchers to recognize that such behaviour could lead to a variety of disciplinary actions, including, in severe cases, expulsion of a student, dismissal of an employee, or criminal/civil proceedings.

11.1.2 Research misconduct is handled by the University with the view to provide guidance on responsible conduct in four ways. Together, the definitions of and procedures for handling allegations of misconduct in research form an initial foundation for effective self-regulation in research. Namely, the policies:

11.1.2.1 Establish definitions for misconduct in research.

11.1.2.2 Outline procedures for reporting and investigating misconduct.

11.1.2.3 Provide protection for those who report misconduct and persons accused of misconduct.

11.1.2.4 Outline procedures for dealing with the erring researchers and any potential fallout from the improper conduct.

11.1.3 Misconduct arises most readily in an environment in which supervision at each relevant level is not reasonably exercised. Team/Centre/College leaders must make clear the standards and protocols for research, scholarship, and creative work in their organizations and must set a tone (by example, through discussion and review of research, and, when possible, with written guidelines; by providing training) that will make adherence to those standards a matter of course. Researchers shall be familiar with this Research Code of Conduct and other laws enforceable at the time. Lack of awareness about ethical standards shall not be a defence to a charge of unethical conduct. If researchers are uncertain whether a particular situation or course of action will violate the Code of Conduct, they shall consult with other knowledgeable researchers and appropriate authority to choose a proper course of action.

11.1.4 Misconduct by Undergraduate and taught Master's students shall be dealt with in parallel with guidelines laid out in the Wheel of Academic Law. Where those guidelines (for students) are in some way contrary to the policies laid out here for all researchers, the Wheel of Academic Law shall take precedence. Otherwise, these policies apply uniformly to all researchers, including PhD students.

11.2 Definitions

11.2.1 Most issues of research conduct have been outlined above. Essentially, misconduct is any action against the Code of Conduct. However, to specify, "misconduct" includes the following.

11.2.2 Research Dishonesty

11.2.2.1 Research Dishonesty is the fabrication, falsification, misrepresentation, or plagiarism in proposing, performing, or reviewing research, or in reporting research results. Research dishonesty does not include differences of professional opinion guaranteed under the University's commitment to academic freedom.

11.2.2.1.1 Fabrication is making up data or results and recording or reporting them.

11.2.2.1.2 Falsification is 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.

11.2.2.1.3 Misrepresentation is stating or presenting a material or significant falsehood, or omitting a fact so that what is stated or presented as a whole states or presents a material or significant falsehood.

11.2.2.1.4 Plagiarism is the appropriation of another person's ideas, processes, results, or words without giving appropriate credit.

11.2.2.2 To be considered research dishonesty, the misconduct must:

11.2.2.2.1 Represent a significant departure from accepted practices.

11.2.2.2.2 Have been committed intentionally, or knowingly, or recklessly.

11.2.2.2.3 Be proven by a preponderance of evidence.

11.2.3 Criminal activity – Any illegal actions are misconduct, and will be dealt with by all applicable criminal codes as well as by this misconduct policy.

11.2.4 Mistreatment of human or animal research subjects

11.2.5 Damage to the natural environment

11.2.6 Damage to national values

11.2.7 Abuse of confidentiality – Confidentiality plays a number of important roles in research. Most peer review is done confidentially. Researchers also share ideas with colleagues with the understanding that they will not be used or made public without permission. There are also serious confidentiality requirements on human subjects research. The abuse of confidentiality may not undermine the validity of research data, but it can undermine the integrity of the research process. Therefore, the University considers such abuses under its definition of research misconduct.

11.2.8 Misuse of data or resources, including:

11.2.8.1 Breach of data security or privacy

11.2.8.2 Using data or resources outside their approved uses or for personal gain (conflict of interest)

11.2.8.3 Interference with any research-related property of another person, including the apparatus, reagents, biological materials, writings, data, hardware, software, or any other substance or device used or produced in the conduct of research

11.2.9 Abuses of the mentor-trainee relationship, such as exploitation or exercising undue professional influence over personal matters

11.2.10 Authorship and publication violations, including:

11.2.10.1 Intentionally omitting reference to the relevant published work of others for the purpose of inferring personal discovery of new information

11.2.10.2 Misleading ascription of authorship to a publication including the listing of authors without their permission

11.2.10.3 Attributing work to others who have not in fact contributed to the research

11.2.10.4 The lack of appropriate acknowledgment of work primarily produced by a research student/trainee or associate

11.2.11 Reviewer violations, including conflicts of interest such as using any information in breach of any duty of confidentiality associated with the review of any manuscript or funding application.

11.2.12 Failure to report misconduct – Failure to report many crimes can be considered a crime and result in penalties. This is particularly true if failure to report a crime puts other individuals or society at risk. Even if not explicitly illegal, research misconduct can put individuals at risk, if, for example, the misconduct affects information that is used for making medical or public decisions. Failure to report research misconduct also undermines professional self-regulation. Therefore, the University considers researchers who knowingly fail to report misconduct they have observed as a type of misconduct itself.

11.2.13 Filing a false report – Researchers shall not knowingly report a false complaint with the intention of harming other researchers and research participants. Such actions, if committed, shall be considered violation of this Code of Conduct.

11.2.14 Obstruction of investigations and retaliation – To emphasize the importance of research misconduct investigations, the University considers obstruction of investigations and retaliation against whistleblowers as misconduct.

11.2.15 Deliberate inclusion of inaccurate or misleading information relating to research activity in curriculum vitae, grant applications, job applications or public statements, or the failure to provide relevant information, is a form of research misconduct.

11.2.16 Other practices – Any other scenarios, not covered above, that seriously deviate from commonly accepted practices might be considered misconduct.

11.3 Reporting Misconduct

11.3.1 If any individual (within or outside the University structure) believes, in good faith, that an act of misconduct is taking place or has taken place, he/she shall try to resolve the issues informally if such action is viewed appropriate. This means presenting his/her concerns, directly to the supervisor of the person whose work is in question. This may be done indirectly through an

intermediary if circumstances warrant it, for example the alleging individual is fearful to come forward somehow, or where there may be communication barriers.

11.3.1.1 There may be circumstances in which, prior to reporting to a Supervisor, it would be appropriate for the person who suspects misconduct to go directly to the suspected person. This would be suitable for minor issues where pointing out the misconduct could educate the suspected person about the problem and resolve the issue. This would not be suitable if there is risk of destruction of evidence of the misconduct.

11.3.1.2 It is also appropriate to seek prior confidential advice on how to proceed from DRIL.

11.3.2 Supervisors who become aware of situations of possible academic misconduct, either by their own observations or because of reports from others, have a responsibility to report them to the DRIL in order to assure that the proper procedure is followed.

11.4 Inquiry and Investigation

11.4.1 DRILs, in coordination with CRCs, HRECs, and AECs, shall be the primary authorities on investigating misconduct. Where University employees are concerned, investigators must adhere to University's HR Policy in addition to these guidelines.

11.4.2 Inquiries and investigations and any subsequent proceedings should be conducted promptly and with care and sensitivity. No exact timeline can be given, but actions cannot be delayed due to mid-semester breaks.

11.4.3 Where criminal conduct is obvious, the case should be sent to law enforcement for their involvement at the earliest clear indication of the criminal behaviour.

11.4.4 All members of the community are expected to cooperate with the proceedings of inquiries and investigations. Those involved should, to the maximum extent possible, protect the privacy of those who in good faith report apparent misconduct and of those who are the alleged offenders, and should take steps to preserve the confidentiality of the investigation and information pertaining to it to the maximum extent possible. However, legal requirements, including legal process, may require disclosure in certain cases.

11.4.4.1 In the event of non-cooperation by any key individuals during investigation and proceedings or if the DRIL and CRCs cannot resolve the issue, the case shall be forwarded to DRER for investigation. Further forwarding as necessary will be determined by DRER. An appropriate agency may have to be sought where such issues are investigated and discussed.

11.4.5 Those involved also have a responsibility to take steps to prevent reprisal against the person bringing the allegation. Reprisal at any time against the person bringing the allegation is an act of misconduct subject to disciplinary action.

11.4.6 Those conducting the inquiry or investigation should, to the extent reasonably feasible, have the expertise to carry out a thorough and authoritative evaluation of the relevant information and have no real or apparent conflicts of interest bearing on the case.

11.4.7 The procedures that should be used in investigating any allegations of academic misconduct depend on the circumstances of each case. Depending on the seriousness of the allegations, the DRIL should be consulted regarding specific guidance for conducting inquiries and investigations and should be contacted before either procedure is undertaken. The following guidelines provide an overview of the process, which involves an initial inquiry into allegations and apparent instances of misconduct, followed by a more formal investigation when that is warranted. An inquiry is initial information gathering and fact finding designed to determine whether or not an allegation deserves further investigation. An investigation is a formal examination and evaluation of all relevant facts to determine if misconduct has occurred.

11.4.8 Inquiry

11.4.8.1 The supervisor of the alleged offender is responsible, in most cases, for initiating the inquiry to determine if an investigation is warranted by notifying the DRIL of the allegations. The DRIL will appoint an impartial fact finder or fact finding committee to conduct the inquiry.

11.4.8.2 The inquiry should be initiated promptly after written allegations or other evidence of possible academic misconduct become known and are brought to the attention of the DRIL. The alleged offender will be notified in writing by the DRIL or, in some cases, the relevant supervisor.

11.4.8.3 The initial inquiry should be based on objective data and avoid unnecessary disclosures of the inquiry to others. Cases that depend specifically upon the observations or statements of the person bringing the allegation may require the involvement of that individual. Other cases that can rely on written information may permit the person bringing the allegation to remain anonymous. The inquiry might also include informal discussion with others of more senior responsibility, such as the relevant team leader, Centre Coordinator, Department or School Head, Dean or Director.

11.4.8.4 The inquiry should attempt to preserve evidence that could be important in an investigation. If an investigation is found not to be warranted or the results of an investigation find that no misconduct has occurred, the evidence should be returned to source (or destroyed if it was duplicated).

11.4.8.5 The inquiry will be concluded with a written report summarizing the process, the information reviewed, and the conclusions as to whether or not an investigation is warranted.

11.4.8.6 If the inquiry concludes that no reasonable basis exists for a belief that misconduct may have occurred and that further investigation is unlikely to produce any significant evidence of misconduct, the report should contain sufficient documentation to permit a later assessment of the reasons for this conclusion. The fact finder will provide a draft copy of the report to the alleged offender who may comment on the report. Those comments will become part of the written report. After considering those comments and revising the report, if he or she so chooses, the fact finder should submit the report to the DRIL, together with a copy of the comments of the alleged offender. The DRIL will submit the report to the DRER along with a recommendation on next steps to be taken, including communicating the findings to others who should be informed.

11.4.8.7 If the inquiry determines that there is a reasonable basis to believe that misconduct may have occurred, whether or not the evidence is conclusive, the alleged offender will be given a copy of the draft report. The report should include all information supporting the allegations. The alleged offender shall be offered the opportunity to respond to the allegations and present such information as he or she wishes. This information will be made a part of the record. The fact finder and the alleged offender may meet in person for the fact finder to review this information. The alleged offender may be accompanied by any University associate as he/she feels necessary at any meeting during the inquiry process, and should be informed of this right before any such meetings take place.

11.4.8.8 After considering the responses of the alleged offender, the fact finder should prepare a final report, including an accurate summary of the information offered by the alleged offender, and forward it to the DRIL. The DRIL will forward the report to the DRER with a recommendation as to whether or not an investigation should be initiated, and a recommendation as to others who should be informed.

11.4.9 Investigation

11.4.9.1 If the DRER concludes that an investigation is warranted, he or she will direct the DRIL to appoint a fact finding person or investigating committee that may include members from outside the Institute. At the same time, the alleged offender will be informed of this action by the DRIL. The DRIL is also responsible for notifying the sponsor of a research project in which misconduct is suspected as soon as the decision has been made to undertake an investigation and for keeping the sponsor informed of the status and the outcome of the investigation.

11.4.9.2 In each case the investigating person or committee will conduct a full investigation in accordance with University policies in order to determine all the relevant facts. This will normally include the examination of all relevant documentation and interviews with all individuals who are involved or may have pertinent information. The investigation should be initiated promptly and should be completed as expeditiously as possible. The alleged offender should be provided with all necessary information in a timely manner to facilitate the preparation of a response and ensure an opportunity to address the charges and the supporting information in detail. The alleged offender may be accompanied by any University associate as he/she feels necessary at any meeting, and should be informed of this right. The person or persons conducting the investigation should consider all relevant information, reach findings of fact based on such information, and not be bound by the findings of the prior inquiry process. Oversight for this process and specific guidance will be provided by the DRIL.

11.4.9.3 The investigating person or committee will detail its findings in a final report that should include substantiating documentation. A draft of this report will be made available to the subject(s) of the investigation for written comment. The final report, including comments of the subject, will then be given to the DRIL. Upon receiving the report and comments, the DRIL will notify the alleged offender that the investigation has been concluded and that a decision with respect to any disciplinary or other action will be reached as

expeditiously as possible. The DRIL will deliver the report to the DRER along with a recommendation for disciplinary actions to be taken and persons to be notified.

11.4.9.4 DRER is then in a position to recommend disciplinary action to the Research and Innovation Committee and other relevant authorities. Disciplinary actions that the DRER might recommend after considering the report include a reprimand, close supervision of future research activities, disbarment from further research activities, disbarment from teaching research courses and/or supervising student research, disqualification from research grants (internal and external), termination of employment, or other alteration of status of the person in question. In case of action against a student, a recommendation to the relevant IAC would be involved, who makes the final decision. In the case of action against an employee, appropriate University HR policies shall be followed. The termination of a faculty member would require a recommendation to the Vice Chancellor. In case of misconduct by a person outside the University structure, recommended actions could include disbarment of further research with the University, forwarding of the case to the person's parent employer, forwarding of the case to any other relevant authorities (such as law enforcement, professional bodies, or the Immigration department in the case of foreigners).

11.4.9.5 DRIL has the authority to attempt to mitigate the effects of the misconduct by withdrawing the University's name and sponsorship from pending abstracts, papers, public appearances, etc., and by notifying persons known to have relied upon any work affected by the misconduct. If the misconduct involves the possibility of having to compensate any victims, the case shall be forwarded to the University legal department, or the office of DRER in lieu of a legal department.

11.4.9.6 If, at any point, investigation reveals the charges to be unsubstantiated, every reasonable effort should be made to restore and protect the reputation of the researcher or scholar under investigation. A report will be prepared documenting the reasons for the conclusion that the allegation is without merit. That report will be given to the DRIL, who will submit it to the DRER along with recommendations concerning it, including recommendations of others who should be informed.

11.4.9.7 Appropriate actions should be taken against anyone found to have brought intentionally dishonest charges.

11.5 Basic Protections

11.5.1 Researchers who commit misconduct place their careers at risk. The University expects anyone investigating misconduct to maintain the privacy of suspects. Moreover, suspects are presumed innocent and entitled to a multi-phase process (inquiry, investigation, recommendations for further proceedings) to establish whether misconduct actually occurred.

11.5.2 As a general rule, research misconduct allegations must not be made public until they have been fully investigated and confirmed. There are, however, exceptions to this rule. If the misconduct could pose a threat to public health or safety, such as misconduct in a medical (clinical) trial, it

must immediately be brought to the attention of the person heading the project, the person with oversight authority, or both. The funding sponsor must also be notified immediately. In such cases, the names of the persons charged should remain confidential, but steps must be taken to safeguard the research subjects.

11.5.3 Making allegations of misconduct ("blowing the whistle") can sometimes place a whistleblower's career at risk. The University expressly forbids retaliation against whistleblowers. Even if accusations are not sustained, as long as they are brought in good faith, informants must be protected and given support since they play a vital role in professional self-regulation.

11.5.4 Should a faculty member or student on whom a disciplinary action has been imposed as a result of research misconduct disagree with the action, they may appeal to the College Research Committee. If they disagree with a decision made by the CRC, he or she may present the appeal to the Institute/College Academic Committee. If the IAC/CAC is unable to resolve the issue, the appeal may then be presented to the Academic Appeals Committee through its member Secretary.

12 Health and Safety

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

12.1 Purpose

The University is dedicated to supporting and advancing teaching, learning and research activities through promotion of safe and healthy campus environments. The University shall take all reasonable measures to minimize safety, health, environmental and regulatory risks to the University community in a manner consistent with responsible practices. The University's Health and Safety policy given herein applies to research activities in lieu of any other general University-wide Health and Safety policies, but shall be superseded by any such policy as and when it becomes available.

12.2 Principles

12.2.1 The minimum work safety guidelines for any University researchers are the Occupational Health and Safety standards set by the Ministry of Labour and Human Resources.

12.2.2 The University is committed to maintain safe and healthy working environments for all its members, including those doing research work, in the physical, psychological, and emotional sense. Specifically, the University shall make all reasonable efforts to:

12.2.2.1 Protect the health and safety of University faculty, staff and students.

12.2.2.2 Provide safe workplaces - academic, research, and administrative - for faculty, staff and students.

12.2.2.3 Provide information to faculty, staff, and students about health and safety hazards.

12.2.2.4 Identify and correct health and safety hazards and encourage faculty, staff and students to report hazards.

12.2.2.5 Provide information and safeguards for those on campus and in the surrounding community regarding environmental hazards arising from operations at the University.

12.2.3 Ensuring the above good health and safety practices are a responsibility of each administrator, faculty member, staff member, and student.

12.2.4 The University is committed to strong programs of accident and injury prevention and to complying with all environmental and health and safety laws and regulations.

12.2.5 Line responsibility for good health and safety practice begins with the supervisor in the workplace, field, laboratory or classroom and proceeds upward through the levels of administration/ management. In academic/research areas, supervisors include the lab/field directors, class instructors, principal investigators and faculty, or others having direct supervisory authority. Final responsibility for health and safety policy and programs rests with the Office of the Vice Chancellor of the University.

12.2.6 Researchers and CRCs are instructed to take the precautionary approach to any potential risks to researchers or research subjects that may arise in the course of conducting research work.

This means that where there is any potential for risk to the health or safety of individuals or the environment, the burden of proof is on researchers to ensure and show that their protocols are safe prior to the conduct of their research work. CRCs may demand proof of required training in procedures that could be potentially hazardous.

12.2.7 The Director of each College is responsible for recommending College-wide health and safety policies; ensuring overall institutional compliance with policies, statutes, and regulations; monitoring the effectiveness of the safety programs; and providing central health and safety services to all areas of the College.

12.2.8 All Colleges shall have specific health and safety guidelines concerning the provision of health and safety measures (e.g. safety kits) for specific research locations, safe disposal of hazardous substances during research, and provision for access to Material Safety Data Sheets (MSDS) for staff working in situations with potential risk to health and safety.

12.2.9 Each College shall designate a relevant Health and Occupational Safety Officer to oversee the health and safety concerns related to research.

12.3 Responsibilities

12.3.1 Supervisory – All University supervisors, including faculty supervisors, are responsible for protecting the health and safety of researchers and students under their supervision, including:

12.3.1.1 Implementing University health and safety policies, practices and programs.

12.3.1.2 Ensuring that workplaces and equipment are safe and well maintained.

12.3.1.3 Ensuring that workplaces or laboratories are in compliance with University policies, programs and practices.

12.3.2 Managerial – All University managers, academic and administrative (including CRCs), are responsible for ensuring that:

12.3.2.1 Individuals under their management have the authority to implement appropriate health and safety policies, practices and programs.

12.3.2.2 Areas under their management have adequate funding for health and safety programs, practices, and equipment.

12.3.2.3 Areas under their management are in compliance with University and national health and safety policies, practices and programs.

12.3.3 OVC – The OVC is responsible for executing, or coordinating with the Colleges, provision for:

12.3.3.1 Reviewing legislation, recommending policies, and monitoring compliance with environmental and health and safety statutes and regulations and University health and safety policies and programs.

12.3.3.2 Providing guidance and technical assistance to supervisors and managers in the Colleges in identifying, evaluating, and correcting health and safety hazards.

12.3.3.3 Developing programs for the safe use of hazardous radiological, biological, and chemical substances and lasers or other physical hazards, including hazardous waste disposal services.

12.3.3.4 Providing training materials, assistance, and programs in safe and healthy work practices.

12.3.3.5 Providing support for emergency services for incidents involving hazardous materials.

12.3.3.6 Providing fire prevention and investigation services.

12.3.4 Researchers (employees, students, and affiliates) – All researchers are responsible for assuring their own safety, the safety of those around them, and the safety and protection of their surrounding environment. Specific researcher responsibilities are:

12.3.4.1 Keeping themselves informed of conditions affecting their health and safety.

12.3.4.2 Participating in training/orientation programs provided by their supervisors and instructors. It is the responsibility of researchers to ensure that they have the requisite training to handle potentially unsafe situations before embarking on research activities.

12.3.4.3 Adhering to healthy and safe practices in their field, workplace, classroom, or laboratory.

12.3.4.4 Advising their supervisors or instructors of serious hazards in the workplace, classroom or laboratory.

12.4 Practices

12.4.1 Providing a safe working environment

12.4.1.1 Facility design

12.4.1.1.1 Facilities will be designed in a manner consistent with health and safety regulations and standards of good design. Those Facilities departments charged with primary responsibility for the design, construction, and/or renovation of facilities, shall ensure that there is appropriate health and safety review of facility concepts, designs, and plans. Safety of research facilities shall be independent verified by CRCs wherever possible.

12.4.1.2 Finding and correcting workplace hazards

12.4.1.2.1 Supervisors, both faculty and staff, shall conduct regular, periodic inspections of workplaces to identify and evaluate workplace hazards and unsafe work practices.

12.4.1.2.2 The frequency of inspections should be proportional to the magnitude of risk posed in the particular workplace.

12.4.1.2.3 Inspections are also required whenever new substances, processes, procedures, or equipment presenting new health and safety hazards are introduced into the workplace.

12.4.1.2.4 Means of correcting discovered hazards and/or protecting individuals from the hazards shall be determined and implemented promptly. Unsafe conditions which cannot be corrected by the supervisor or manager must be reported to the next higher level of management. Any supervisor or manager who becomes aware of a serious concealed danger to the health or safety of individuals shall report this danger promptly to the applicable facilities management and to the faculty, staff and students who may be affected.

12.4.1.2.5 The University encourages researchers to report health and safety hazards to their supervisors, managers, or CRCs and DRIL. Employees and students shall not be discharged or discriminated against in any manner for bona fide reporting of health and safety hazards to appropriate authorities. Supervisors shall inform students and employees of this policy and encourage reporting of workplace hazards.

12.4.1.3 Shutdown of dangerous activities

12.4.1.3.1 DRER and DRIL have authority to shutdown any research activity considered to constitute a clear and present danger to health or safety. In the event of such curtailment or shutdown, College and University administrators shall be immediately notified.

12.4.1.3.2 In cases of dispute, an order to curtail or shutdown will remain in effect until the DRIL or DRER (or their respective designees) determine in writing that the danger has passed or been mitigated or that the order should be rescinded for other reasons.

12.4.2 Should DRIL or DRER disagree with a determination to restore a curtailed or shutdown activity, they may appeal the matter to the College Research Committee. Should a faculty member or other researcher presenting the appeal wish to appeal a decision made by the CRC, he or she may present the appeal to the Institute/College Academic Committee. If the IAC/CAC is unable to resolve the issue and all informal or formal processes to the appellant have been exhausted, the appeal may then be presented to the Academic Appeals Committee through its member Secretary. In the event of an appeal, the order to curtail or shutdown shall be in effect until the IAC/CAC or the AAC determines otherwise.

12.4.2.1 Providing medical surveillance – The University shall help evaluate and monitor, through a programme of medical surveillance, the health of University faculty, staff and students who are exposed to certain hazardous materials and situations as defined by law or University policy. Each supervisor is responsible for ensuring that employees and students under their supervision participate in the medical surveillance programme as required. Each University department/school shall administer the programme for those faculty, staff and students covered by University policy.

12.4.3 Emergency response and preparedness

12.4.3.1 The College shall provide guidelines for emergency response plans. Every building shall have individual emergency response plans. The plan shall include evacuation and assembly procedures, posted evacuation maps, reporting and communication practices, and training. Exits shall remain free of obstructions and materials that could render the exit hazardous. In areas where hazardous materials are used, handled, or stored, the College shall ensure that all necessary procedures regarding the hazards are included in its emergency response plan.

12.4.4 Communication and training

12.4.4.1 System of communication – Supervisors, both faculty and staff, shall establish, implement and maintain a system for communicating with employees and students about health and safety matters. Information must be presented in a manner readily understood by the affected employees and students. Due attention must be paid to levels of literacy and language barriers. Verbal communications should be supplemented with written materials or postings. Whenever appropriate, statutes and policies affecting employees and students shall be available in the workplaces.

12.4.4.2 Communication about biohazards – Faculty, staff, and students who may come in contact with hazardous substances or practices either in the workplace or in laboratories shall be provided information concerning the particular hazards which may be posed, and the methods by which they may deal with such hazards in a safe and healthful manner. In areas where hazardous chemicals are used, handled, or stored, communications about these hazards shall be appropriately disseminated.

12.4.4.3 Training

12.4.4.3.1 Supervisors shall be trained or knowledgeable in the safety and health hazards to which employees and students under their immediate direction and control may be exposed.

12.4.4.3.2 Faculty, staff and students shall be trained to protect themselves from hazards in their working environment. Supervisors, both faculty and staff, shall train employees and students in:

12.4.4.3.2.1 General health and safety practices.

12.4.4.3.2.2 Job-specific health and safety practices and hazards.

12.4.4.3.2.3 Recognition and assessment of health and safety risks.

12.4.4.3.2.4 How to minimize risks through sound safety practices and use of protective equipment.

12.4.4.3.2.5 Regulations and statutes applicable to their work.

12.4.4.3.2.6 Any National and University health and safety policies.

12.4.4.3.3 Training shall occur:

12.4.4.3.3.1 When an employee is hired.

12.4.4.3.3.2 When an employee or student is given a new assignment for which training has not previously been received.

12.4.4.3.3.3 Whenever new hazards are introduced by new substances, processes or equipment.

12.4.4.3.4 Training shall be communicated in a manner readily understandable to faculty, staff and students, in accordance with the communication policy outlined above.

12.4.4.4 Health and safety performance standards – Managers and supervisors shall establish and maintain a system of rewards and discipline to support good health and safety practices.

12.4.5 Documentation, record-keeping, and compliance – Required documentation and records shall be kept to demonstrate compliance with statutes, regulations and standards. Examples of records that need to be maintained include:

12.4.5.1 Records of training which must include who was trained, who provided the training, what did the training cover, and what date did the training take place.

12.4.5.2 Records of workplace inspection and hazard correction which must include who conducted the inspection, the inspection date, any unsafe conditions or practices found, and the corrective measures taken.

12.4.5.3 Records of disciplinary action for failure to comply with health and safety policies and practices.

13 University Property

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

13.1 Purpose

Generally speaking, the University holds the rights over all property related to research, physical or intellectual, including research outputs. The University shall support all efforts to actualize benefits from its researchers' inventions, and offers a generous benefit-sharing policy. This Chapter describes the University's policies on intellectual property, tangible research property, and research-based services performed by its researchers.

13.2 Intellectual Property

13.2.1 Definitions

13.2.1.1 Intellectual property (IP) refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce.

13.2.1.2 IP is generally divided into categories:

13.2.1.2.1 Industrial property includes inventions (patents), trademarks, industrial designs, and geographic indications of source. Industrial property in Bhutan is governed by the Industrial Property Act of 2001.

13.2.1.2.2 Copyright, includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs. Copyright in Bhutan is governed by the Copyright Act of 2001.

13.2.1.3 Traditional knowledge (TK) is also protected as intellectual property in Bhutan, and may come under either of the two above definitions. All policies and procedures regarding traditional knowledge are defined in the Access and Benefit Sharing Policy, maintained by the National Biodiversity Centre of the Ministry of Agriculture and Forests.

13.2.2 Background on industrial property

13.2.2.1 Patents are issued by governments giving an inventor the right to exclude all others from making, using, or selling the invention within the patenting authority's jurisdiction (usually an individual country). When a patent application is filed, it is reviewed to ascertain if the invention is new, useful, and non-obvious. If appropriate, a patent is granted for exclusive rights to the invention for a specified period of time, during which if others wish to make use of the invention, they must apply for a license from the inventor. Bhutan grants patents on industrial property for 20 years.

13.2.2.2 Inventions are novel and useful ideas relating to practically applicable concepts, processes, machines, manufactures, and compositions of matter. They may include such things as new or improved devices, systems, circuits, chemical compounds, mixtures, or new ways of doing something usefully. Inventions arise when something new and useful

has been conceived or developed, or when unusual, unexpected, or non-obvious results have been obtained and can be exploited. Some types of software may also be patentable.

13.2.2.2.1 Not all inventions are patentable. In general, an invention must not be obvious to an individual with ordinary skill in that invention's particular field. It must also be novel, in the sense that it should not have been previously publicly known or used by others within the patenting authority's jurisdiction or patented or described in a printed publication anywhere. Patentability may therefore be lost unless a formal application is filed with a patent office within a certain timeframe of disclosure in a publication or of any other action which results in the details of the invention becoming generally available. The University therefore requires disclosure of any potentially patentable inventions to DRIL prior to wider dissemination.

13.2.2.2.2 Bhutan does not allow patenting of discoveries, scientific theories and mathematical methods; schemes, rules or methods for doing business, performing purely mental acts or playing games; or methods for treatment of the human or animal body by surgery or therapy, as well as diagnostic methods practiced on the human or animal body. Exceptions (which may be patented) include any actual products used in any of the above methods.

13.2.2.2.3 Unpatentable inventions may still be valuable and important - for example, trade secrets and technical "know-how" encompassing proprietary information of a valuable and confidential nature. The University requires reports of all inventions, whether or not they are considered patentable, and shall assist inventors in making the appropriate determinations.

13.2.2.3 Trademarks are distinctive signs which identify certain goods or services as those produced or provided by a specific person or enterprise.

13.2.2.4 Industrial designs are the ornamental or aesthetic aspects of an article. The designs may consist of three-dimensional features, such as the shape or surface of an article, or of two-dimensional features, such as patterns, lines or colour. Industrial designs may be applied to a wide variety of products of industry and handicraft: technical and medical instruments, wearable or luxury items, housewares, electronics and electrical appliances, vehicles, architectural structures, textile designs, leisure goods, etc. Novelty or originality is a criteria for legal protection of industrial designs, and is determined with respect to existing design elements. An industrial design is primarily of an aesthetic nature, and does not protect any technical features of the article to which it is applied.

13.2.2.5 Geographical indications are names or signs used on certain products which correspond to specific geographical locations or origins (e.g. towns, regions, or countries). The use of a geographical indication may act as a certification that the product possesses certain qualities, is made according to traditional methods, or enjoys a certain reputation, due to its geographical origin.

13.2.3 University policy on industrial property

13.2.3.1 The University has first rights to ownership over patentable inventions, innovations and discoveries made by University researchers in the course of their University responsibilities, or with more than incidental use of University resources, subject to any other preformed agreements with external partners. By default, ownership of such industrial property shall be assigned to the University, regardless of the source of funding.

13.2.3.2 Researchers/inventors will be provided incentives in due recognition of their work and to promote new inventions, innovations and discoveries. The University shall share royalties from inventions assigned to the University with the inventor(s) as detailed below.

13.2.3.3 If the University declines to pursue property rights (through an expressed, written statement from DRER), the inventor(s), acting collectively where there is more than one, are free to place their inventions in the public domain if they believe that would be in the best interest of technology transfer and if doing so is not in violation of the terms of any agreements that supported or are related to the work.

13.2.3.4 All applications on property rights related to University research findings should be routed through DRER. The University, as the owner of the IP, will handle the formalities of appropriately registering the IP claims through its business office.

13.2.3.5 The university shall invest back a part of the royalties generated through new inventions, innovations and discoveries into the University research funding infrastructure.

13.2.3.5.1 OVC shall be the repository for all ownership titles within the University system.

13.2.3.6 Waivers of the provisions of this policy may be granted by the VC or a designate of the VC on a case-by-case basis, giving consideration to (among other things) University obligations to sponsors, whether the waiver would be in the best interest of technology transfer, whether the waiver would be in the best interest of the University and whether the waiver would result in a conflict of interest. In addition, the VC may expand upon these provisions and shall adopt rules, based on the same factors as well as appropriateness to the University's relationship with inventors, for the ownership of potentially patentable inventions created or discovered with more than incidental use of University resources by students when not working as employees of the University, by visiting scholars and by others who are not University employees.

13.2.3.7 Researchers must disclose, in a timely manner, all potentially patentable inventions, innovations and discoveries that are made in the course of their University responsibilities. Where any possibility exists of outputs or discoveries that in any way could result in revenue generation, researchers should inform CRCs and DRIL prior to wide public disclosure or submitting their findings for publication. The University maintains the right

to embargo public disclosure of such discoveries for a limited time for the sole purpose of properly asserting intellectual property rights. Researchers are expected to apply reasonable judgment as to whether an invention has potential for commercial marketing. If such commercial potential exists, the invention should be considered "potentially patentable," and disclosed to the University. In any situation where a researcher may be uncertain, he/she should discuss the patenting potential with Research Services.

13.2.4 Background on copyright

13.2.4.1 Under the Copyright Act of the Kingdom of Bhutan, 2001, copyright subsists in original literary and artistic works(and some derivative works such as translations) which have been fixed in any tangible medium of expression from which they can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. These works include:

13.2.4.1.1 Books, pamphlets, articles, computer programs and other writings.

13.2.4.1.2 Speeches, lectures, addresses, sermons and other oral works.

13.2.4.1.3 Dramatic, dramatico-musical works, pantomimes, choreographic works and other

13.2.4.1.4 Works created for stage productions.

13.2.4.1.5 Stage productions of works mentioned in the previous item and of expressions of folklore that are apt for such productions.

13.2.4.1.6 Musical works, with or without accompanying words.

13.2.4.1.7 Audiovisual works.

13.2.4.1.8 Works of architecture.

13.2.4.1.9 Works of drawing, painting, sculpture, engraving, lithography, tapestry and other works of fine art.

13.2.4.1.10 Photographic works.

13.2.4.1.11 Works of applied art.

13.2.4.1.12 Illustrations, maps, plans, sketches and three-dimensional works relative to geography, topography, architecture or science.

13.2.4.2 Copyright protection does not extend to any idea, process, concept, discovery or the like, but only to the work in which it may be embodied, illustrated, or explained. For example, a written description of a manufacturing process is copyrightable, but the copyright only prevents unauthorized copying of the description; the process described could be freely copied unless it enjoys some other protection, such as patent.

13.2.4.3 Subject to various exceptions and limitations provided for in the copyright law, the copyright owner has the exclusive right to reproduce the work, prepare derivative

works, distribute copies by sale or otherwise, and display or perform the work publicly. Ownership of copyright is distinct from the ownership of any material object in which the work may be embodied. For example, upon purchase of a film on disc, the buyer does not necessarily obtain the right to make a public showing for profit.

13.2.4.4 The term of copyright in Bhutan in the circumstance where there is a single author is normally the life of the author plus fifty years, with various deviations from the norm in case of other circumstances as specified in the Copyright Act of 2001.

13.2.5 University policy on copyrights

13.2.5.1 All copyrights shall remain with the creator unless: the work is a work-for-hire (and copyright vests in the University under copyright law), is supported by a direct allocation of funds through the University for the pursuit of a specific project, is commissioned by the University, makes significant use of University resources or personnel, or is otherwise subject to contractual obligations.

13.2.5.2 In accord with academic tradition (except where indicated otherwise), the University does not claim ownership to pedagogical, scholarly, or artistic works, regardless of their form of expression. Such works include those of students created in the course of their education, such as dissertations, papers and articles. The University claims no ownership of popular nonfiction, novels, textbooks, poems, musical compositions, unpatentable software, or other works of artistic imagination which are not institutional works and did not make significant use of University resources or the services of University non-faculty employees working within the scope of their employment.

13.2.5.3 The University shall retain ownership of works created as "institutional works". Institutional works include works that are supported by a specific allocation of University funds or that are created at the direction of the University for a specific University purpose. Institutional works also include works whose authorship cannot be attributed to one or a discrete number of authors but rather result from simultaneous or sequential contributions over time by multiple faculty and students. For example, University policies, procedures, and curricula are institutional works. Individual faculty members' personally created teaching materials are not institutional works unless otherwise specified. Software tools or online media such as web-pages developed and improved over time by multiple faculty and students where authorship is not appropriately attributed to a single or defined group of authors would constitute an institutional work. However, the mere fact that multiple individuals have contributed to the creation of a work shall not cause the work to constitute an institutional work.

13.2.5.4 Royalty income received by the University for such work will normally be distributed in accordance with University policy as specified below. Physical embodiments of copyrightable works may also be subject to the University's policy on Tangible Research Property (below).

13.2.5.5 Works of non-employees such as consultants, independent contractors, etc. generally are owned by the creator and not by the University, unless there is a written agreement to the contrary. However, it is the University's policy that it shall retain ownership of such works (created as institutional rather than personal efforts, as described above), and therefore shall require a written agreement from non-employees that ownership of such works will be assigned to the University.

13.2.5.6 This policy shall not be interpreted to limit the University's ability to meet its obligations for deliverables under any contract, grant, or other arrangement with third parties, including sponsored research agreements, license agreements and the like. Copyrightable works that are subject to sponsored research agreements or other contractual obligations of the University shall be owned by the University, so that the University may satisfy its contractual obligations.

13.2.5.7 University resources are to be used solely for University purposes and not for personal gain or personal commercial advantage, nor for any other non-University purposes. Therefore, if the creator of a copyrightable work makes significant use of University resources to create the work, he/she shall disclose the work to Research Services and assign title to the University. Examples of non-significant use include ordinary use of desktop computers, University libraries and limited secretarial or administrative resources.

13.2.5.8 When copyright is assigned to the University due to any of the provisions of this policy, the creator of the copyrighted material may make a request to the RIC that ownership be reconveyed back to the creator. Such a request can, at the discretion of the RIC Chair, be granted if it does not: (i) violate any legal obligations of or to the University, (ii) limit appropriate University uses of the materials, (iii) create a real or potential conflict of interest for the creator, or (iv) otherwise conflict with University goals or principles.

13.2.5.9 OVC is the repository for all copyrights within the University system.

13.3 Royalties or Other License-Based Income from Research Outputs

13.3.1 The University encourages the development of inventions and technology resulting from University research by industry for public use and benefit. Therefore, the University shall approve IP licensing agreements to exploit its industrial property or copyrights on an exclusive or non-exclusive basis to a company to undertake commercial development and production.

13.3.2 The research and teaching missions of the University shall always take precedence over patent considerations. Therefore, direction of University research shall not be established or unduly influenced by patent considerations or personal financial interests.

13.3.3 Research Services at DRER handles the evaluation, marketing, negotiations and licensing of University-owned inventions with commercial potential, and deals with any conflicts arising thereof.

13.3.4 Where collaborators external to the University structure are involved, revenue and other valuable benefits that accrue based on research work shall first be divided based on any preformed agreements that exist between parties, subject to any other relevant national laws, policies, or regulations. After such division is made, further sub-division of revenue within the University structure shall be done (see below).

13.3.5 Royalty (or any other income from the licensing) is distributed as follows: Royalty income is divided one third to the inventor, one third to the inventor's College, and one third to the University. Within a College, the IAC may choose to further allocate a portion of the College's share of the royalty income to the inventor's Department, School, or Research Centre. The University may at times accept equity as part of the license issue income, also to be divided as indicated.

13.4 Tangible Research Property

13.4.1 Tangible Research Property (TRP) is defined for purposes of this Policy as tangible (or corporeal, physical) items produced in the course of research projects supported by the University or by external sponsors. TRP includes such items as: biological materials, samples, reagents, tools, equipment, engineering drawings, computer software or databases, computing equipment, prototype devices, circuit diagrams, or constructed facilities.

13.4.2 Any research data, materials, or custom-built software are also TRP. The University embraces the principle of openness in research, therefore it shall allow open access by all interested persons to the underlying data, to the processes, and to the final results of research, for non-commercial purposes. The University retains ownership of such materials.

13.4.3 TRP is separate and distinct from intangible (or intellectual) property such as inventions, patents, copyright and trademarks which are subject to the Intellectual Property Policy. Individual items of TRP may be associated with one or more intangible properties such as copyright or patents.

13.4.4 Except where authorized by RGoB, the University must hold in public trust any property in which it has acquired ownership and must relinquish such property only when it would more effectively serve the scientific or educational objectives for which it was acquired or when it is necessary to fulfil University obligations to donors or research sponsors.

13.4.5 TRP may not be sold for profit, although licensing agreements which include provision for royalty income may be negotiated for commercial use of the intangible property rights associated with the TRP (see above). When distributing TRP to research colleagues outside the College, costs of the raw materials and handling may be recovered from the recipient, with the income returned to the account which funded those costs. If any of the initial costs were funded from sponsored agreements, the Research Services division should be asked to advise on the contractual obligations regarding distribution of the TRP and disposition of the recovered costs. If any costs are charged for TRP distribution, adequate documentation must be maintained for audit purposes.

13.4.6 Equipment subject to the control of or restrictions imposed by a donor or research sponsor will be disposed of in accordance with those restrictions. Equipment in which the University has title without restriction or limitation may be relinquished by the University only under limited

circumstances. Consequently, project supervisors who wish to initiate a request for disposition or transfer of equipment purchased under a sponsored programme should consult the University in advance of the desired transfer date.

13.4.7 Distribution of biological TRP

13.4.7.1 Each distribution for non-commercial research purposes should be accompanied by a letter of transmittal which includes the following, or equivalent, wording: "For RUB's records, please indicate your agreement (1) to accept (insert a Registry Code No.) to be used only for non-clinical research by you in your research laboratory, and (2) to not distribute the item(s) to any other individual or entity, by signing and returning a copy of this letter to me."

13.4.7.2 If there is a possibility of biohazard or other risk associated with the transport, storage or use of a particular TRP, or if the recipient is likely to use the TRP for clinical research, Research Services should be consulted for advice regarding appropriate precautionary language in the TRP distribution agreement. Research Services can provide standard TRP distribution forms which contain appropriate precautionary language.

13.4.8 Distribution of software TRP

13.4.8.1 Distribution, for research purposes only, of computer software owned by the University may be made without restrictions if control of subsequent use by the Principal Investigator is not desired. For example, a Principal Investigator may wish recipients to follow a specific research protocol. Any such distribution is subject to the applicable contract or grant provisions and an agreement by the recipient that commercial development of the software is not to be undertaken.

13.4.8.2 If software owned by the University has commercial value or if it is considered desirable to control subsequent use, distribution for research purposes must be coordinated with Research Services at DREr and must be accompanied by an appropriate agreement with the recipient. Research Services will arrange for trademark and copyright registration as needed. Research Services will also provide wording for the distribution agreement as necessary to preserve commercial value and provide coordination with existing or prospective commercial licensing activities.

13.4.8.3 When software results from sponsored research, due consideration must be given regarding contractual obligations and regulations affecting ownership, disposition of various rights, and restrictions on the distribution and use of TRP and any associated income.

13.4.9 Distribution of TRP other than biological products should normally follow the procedures outlined above for the example of computer software.

13.4.10 University researchers might be engaged in research both within and outside the country. Research activities can include the use of technology, the development of items (e.g., products, goods, hardware, software, and materials), or the communication of information, that are

subject to RGoB export-control laws and regulations. Researchers are responsible for to ensuring compliance with any such applicable laws and regulations. Some activities that may trigger export control restrictions are:

13.4.10.1 Shipping items or technology to another country.

13.4.10.2 Transporting items or technology while travelling abroad (Export Control regulations do not distinguish between shipping an item and carrying an item).

13.4.10.3 Disclosing technology or information about a technology to a foreign national, including foreign nationals working at the University. In addition, technology, know how, and source code that is released to a foreign national within the country may be "deemed" to be an export to the country where the person is a resident or citizen and could be subject to licensing requirements.

13.4.10.4 Providing financial assistance to certain countries, persons, or entities.

13.4.10.5 Providing professional services to certain countries, persons, or entities.

13.5 Research-Based Services

13.5.1 University researchers are allowed to conduct research studies for hire (research-based services) as long as all the work conducted is in compliance with the University's research and other policies. In particular, the services should not detract from any of the researcher's other obligations or pose any conflicts of interest. The services, whether secured collectively or individually, should be for legitimate and reputable sponsors, must be pre-approved by the CRC, charged according to guidelines set by Research Services, and notified to the DRIL.

13.5.2 Income generated from research-based services done through collaboration with external partners is divided first based on any preformed agreements that exist between parties, subject to any other relevant national laws, policies, or regulations. After such division is made, further sub-division of revenue within the University structure shall be done (see below).

13.5.3 All net monetary revenue and other income from research-based services, including consultancy, provided collectively or individually, shall be shared as follows (amounts given may be treated as per annum for recurring revenue):

Revenue Amount (Nu)	Researchers	College	University
First 25,000	80%	20%	Nil
Next 25,000	70%	20%	10%
Next 50,000	60%	25%	15%
Above 100,000	50%	30%	20%

13.5.4 The policy on sharing of monetary revenue and other income from research-based services shall apply to all university staff irrespective of whether they are on campus or they are on leave.

13.5.5 In case of research services carried out by the Office of the Vice Chancellor, the income that accrues for the University will be 20%, 30% and 40% and 50% respectively for the different categories of revenue amount.

13.5.6 Amount for "Researchers" is divided among the various researchers involved on a mutually-agreed basis, generally based on relative contribution to the work.

14 Sponsored Research

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

14.1 Purpose

The University administers all research funding coming into the University, including those funds granted to individual researchers, on their behalf. As such, funds spent on research activities at the University must be used in accordance with the University's financial rules and regulations. Researchers are advised to ensure they have included the indirect costs required by the University in their funding proposals. For its part, the University will stimulate research through University- and College-wide research funding. Researchers are also encouraged to seek out their own research sponsors, within the guidelines for acceptable funding sources given herein.

14.2 General Considerations for Sponsored Research

14.2.1 All financial matters related to research shall be in line with University financial rules and regulations, and avoid financial conflicts of interest.

14.2.2 Facilities & Administrative (indirect) costs

14.2.2.1 The University and College infrastructure, including all facilities and administration, are what make research at the University possible. As such, a portion of all incoming funds from external sources for research purposes, whether allocated to the OVC, College, or directly to an individual researcher, shall be retained to support that infrastructure.

14.2.2.2 University employees and students shall bear in mind that any research funds they are awarded, even those obtained totally independently, are implicitly contingent on their affiliation with the University. As such, a sponsored project budget will include the University's full negotiated F&A (indirect) cost rate, unless a waiver of those costs has been approved. The default rate applicable consistently across all Colleges/OVC is 10% of the total cost. Alternative rates and ceilings may be negotiated with prior approval of DRIL.

14.2.2.3 Research funds are expected to be used in line with RGoB and University financial guidelines for research activities in line with approved budgets. Such budgets would not typically include claims for honorariums, salary, stipends, or any other direct-to-researcher payments except where covered by travel or daily allowance guidelines. Funds which fall instead into the category of research services provided as consultancy may be used as direct-to-researcher payments, subject to the consulting guidelines in the University's HR Policy.

14.2.2.4 University-sponsored and College-sponsored research grants may optionally specify whether the F&A costs will be applied.

14.2.2.5 Fellowships and scholarships meant as salaries/stipends to support students, postdoctoral fellows, and research associates are not subject to F&A costs.

14.3 University-Wide Research Funding

14.3.1 The University shall maintain an Annual University Research Grant (AURG), subject to available funding, available on a competitive basis for applicants from any constituent Colleges.

14.3.2 DRER will administer the grant and award funds annually after a review process based on merit and availability of funds. All grant applications accepted for review shall be evaluated against published quality criteria set by the university. The review shall be conducted by a panel appointed by DRER.

14.3.3 Grant proposals submitted to DRER for AURG support must be presented according to the proposal format recommended by DRER. Grant applications will be accepted for review only after they are quality screened and recommended by the College Research Committee.

14.3.4 Monitoring shall be done through CRCs with, at the least, a mid-term and final report.

14.3.5 F&A costs may be charged by Colleges, as per the above guidelines, at the default rate unless otherwise specified. Applications should include these indirect costs in their proposed budgets.

14.3.6 Applications by OVC personnel can be made directly to DREr.

14.3.7 All researches completed with AURG support must disseminate their findings/results through presentations at national or international conferences and seminars, journal publications, and policy briefs.

14.3.8 Grant applications from faculty, individually or collectively, for AURG support shall not be considered for award if the grant applicant or any member of a grant application has not successfully completed a study previously supported through AURG.

14.4 College Research Funds

14.4.1 Each college shall set aside at least 1% of its annual operating budget for research. The full amount does not need to be utilized each year, and can remain as un-invested reserve fund for future use, but the remaining amount and any interest accumulated on it must be maintained for research use only.

14.4.2 The responsibility for administering this fund remains with the College. Colleges may choose to divide the fund among distinct priority areas or divisions as they see fit. Appropriate uses, in order of priority, would be:

14.4.2.1 Funding research proposals.

14.4.2.2 Providing research training and capacity-building opportunities, such as research methods workshops within the College.

14.4.2.3 Supporting the operations of the College Research Committees.

14.4.2.4 Developing the Research Centres/Institutes.

14.4.3 Where the fund is used for research training and capacity-building purposes, such opportunities shall be made available as widely as possible within the College.

14.4.4 Where the fund is used for research grants to College members, the awarding shall be done purely on a competitive basis, after formal calls for applications and review of proposals by the CRC. CRCs may use the same application forms and procedures as utilized for the University-wide AURG, or devise a system of their own, in-line with the review and approval procedures given above (see Section 4.3).

14.4.5 All grant applications accepted for review shall be evaluated against published quality criteria set by the College. The review shall be conducted by a panel appointed by the CRC.

14.5 Research Funded by External Sources

14.5.1 The University encourages its staff and students to engage with the world beyond the University structures and to seek external funding from appropriate public or private, local or international sources to support research. However, those involved in seeking funds should recognize that research funds are accepted by the University on their behalf, and thus tie the University's reputation to that of the funding source. Funding sources are not all equally compatible with the ethos of independent research and the acceptance of funding from certain sources might harm or undermine the University's reputation and/or freedom to undertake research and arrive at independent outcomes.

14.5.2 The University may accept funds from any legal and reputable source where there is no conflict with other University or National policies and after careful consideration has been given to ethical issues and potential conflicts of interest.

14.5.3 The University will comprehensively investigate external funding proposals when:

14.5.3.1 The original source of the proposed funding is unclear, unknown and/or cannot be identified.

14.5.3.2 The proposed funder wishes to restrict publication and/or exploitation of the findings of the research or wishes to exert influence over the findings and their dissemination.

14.5.3.3 A member of staff or a student has a material interest in or connection with a proposed funder that could compromise objectivity in research.

14.5.3.4 Accepting funds from one source might affect the University's ability to apply for funds from other sources.

14.5.3.5 The research has the potential to harm the public or participants.

14.5.4 The University shall not accept funds when:

14.5.4.1 The motives, interests, aims, practices and priorities of the potential funder are contrary to or in conflict with the University's interests and National values.

14.5.4.2 Acceptance of the funds and association with the proposed sponsor is likely to result in negative publicity or harm to the reputation of the University, its staff or students.

14.5.4.3 The suppression, delay, modification or partial publication of the results of research or scholarship by a sponsor is likely to lead to ethical difficulties.

14.5.5 University's Financial Rules and Regulations shall be followed. F&A (indirect) costs shall be applied.

14.5.6 A research project funded for University researchers by a Bhutanese organization other than the University shall require prior approval of the University in writing through DRIL.

14.5.7 Research funded by foreign organizations or countries that do not have formal diplomatic relations with Bhutan shall require prior approval of the relevant representative Ministry or other agency of RGoB, such as the Gross National Happiness Commission.

15 Publications by the University

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

15.1 Purpose

The University aims to be a source of high-quality publications (journal articles, reviews, features, books, seminar presentations, media appearances) from its researchers. Researchers are encouraged to publish their findings locally, nationally, and internationally, particularly those that can inform policy and advance knowledge relevant to Bhutan, either in official University publications such as Bhutan Journal of Research and Development (BJRD) or College-based journals or through external venues on their own. Official University publications must uphold the highest possible standards of integrity and commitment to excellence by maintaining certain standards as defined here.

15.2 General Requirements

15.2.1 Publications must be in line with the Research Code of Ethics and the Intellectual Property policies.

15.2.2 Any research publications (such as journals or books) that carry the University name or the name of any constituent College must be peer-reviewed. This includes the University's premier publication, the 'Bhutan Journal of Research and Development', as well as any individual college research journals. The Aims/Scope of any research publication shall be indicated in each issue, along with a statement about its peer-reviewed status.

15.2.3 Each University or College research publication shall have a clear Editorial Policy, including a respectable Editorial Board with clearly stated terms of reference, membership terms, and procedures for conduct of business. Members of the Editorial Board may review publications, or send prospective manuscripts to other nominated reviewers based on relevance and expertise. Internationally-accepted norms for peer review should be followed, including maintenance of reviewer confidentiality.

15.2.4 Each University or College research publication shall have published Manuscript Guidelines and standard peer review processes approved by the CRC and IAC/CAC.

15.2.5 University publications shall not entertain low quality articles that represent nothing more than compilations of general knowledge with no significantly new interpretations, or offer only trivial findings with no real impact on scholarly literature and no chance of academic or practical application.

15.2.6 Every research publication is required to maintain an online version of its issues. Access to articles will be open for the foreseeable future. Articles should be marked with digital object identifiers (DOIs as best as possible.

15.2.7 Publications are required to respect legitimate requests for information and respond to such requests within a reasonable period of time.

15.2.8 No University or College research publication shall charge a publication fee or any type of cost to an author.

15.2.9 Publications must allow for refutations and amendments as defined here.

15.3 Refutations

15.3.1 University publications shall allow targeted commentary of published works through refutations: readers' criticism of primary research papers.

15.3.2 University publications shall consider and publish refutations (in concise form) if and only if the author provides compelling evidence that a major claim of the original paper was incorrect.

15.3.3 Refutations are peer-reviewed, and where possible they are sent to the same referees who reviewed the original paper. A copy is also sent to the corresponding author of the original paper for signed comments. In essence a refutation is like a normal publication, except that it exists solely to counter claims by a previously published paper.

15.3.4 A refutation shall typically be published in the next possible issue as a Correspondence. It shall be published with a brief response from the original authors. Some submitted refutations may lead to amendments (see below). In both cases, the published refutation or amendment is bi-directionally linked online to the original paper.

15.3.5 Complaints, disagreements over interpretation and other matters arising should be addressed to the editor of the journal concerned. Because debates over interpretation are often inconclusive, a journal is obliged to consider constructive criticisms of review articles or other secondary material. In the event that such critiques meet the journal's review standards and are accepted and published, a journal need not necessarily consult the original authors. Editorial decisions in such cases are based on considerations of reader interest, novelty of arguments, integrity of the publication record and fairness to the parties involved (including the original author). Publication may take various forms and are at the discretion of the editor.

15.4 Amendments to Published Articles

15.4.1 The careful adherence to review procedures and monitoring by editors should ideally preclude the need to alter already-published work. Research done honestly following best practices, reported as accurately as possible, and peer-reviewed, is then left for the judgment of the rest of the field and greater public for the long-term future. It is natural that conclusions made based on the best available data at one time may be found to differ from those made at a later time or by those using different methods. This is the normal course for scholarly discovery and does not put any burden on researchers of the past to somehow acknowledge that their work was "wrong". However, if published work contains actual errors (intentional or unintentional) or fraud, then the fault must be acknowledged publically, generally by publishing an amendment. Every University research publication must have a detailed policy in place for issuing amendments in line with the principles stated here.

15.4.2 Amendments are represented by a formal printed and online notice in the journal because they affect the publication record and/or the accuracy of published information. In print, an amendment will be published in the next available issue and will have a table of contents entry. Online, an amendment will be permanently and bi-directionally linked to the article to which it refers through prominent navigation links in the online formal. All amendments should also carry DOIs (digital object identifiers) both online and in print to help ensure that indexers other repositories of scholarly articles will have a reliable link from an amendment to the original article to which it refers.

15.4.3 Readers wishing to draw the journal's attention to a significant published error should submit a "Correspondence". This procedure is a mechanism for investigating readers' concerns and does not imply that the concerns will be published. In cases where a significant error is confirmed after taking the advice of peer-reviewers, such concerns will be published in one of the categories of amendment described here.

15.4.4 Erratum – Notification of an important mistake or error made by the journal that affects the publication record or the academic integrity of the paper, or the reputation of the authors, or of the journal.

15.4.4.1 Errata typically concern the amendment of mistakes introduced by the journal in editing or production, including errors of omission such as failure to make factual proof corrections requested by authors within the deadline provided by the journal and within journal policy.

15.4.4.2 Errata are generally not published for simple, obvious typographical errors, but are published when an apparently simple error is significant (for example a Greek mu for an 'm' in a unit, or a typographical error in an author's name).

15.4.4.3 Examples include:

15.4.4.3.1 Misprinting of any author's biographical details (Name, affiliation, address, contact information).

15.4.4.3.2 Misprinting of scientific units, for example, due to font problems.

15.4.4.3.3 Error in legibility or lettering on a figure. This can usually be resolved by publishing a sentence of rectification. A significant error in the figure itself is corrected by publication of a new corrected figure as an erratum – typically only if the editor considers it necessary for a reader to understand it.

15.4.4.4 Piecemeal erratum – The most common type of Erratum is one in which the original article is referred to in a notice in a later issue and the errors are listed and described one by one for that particular article. The erratum should be published in a citable form.

15.4.4.5 Whole article erratum – The entire article is reprinted (with the errors corrected), along with the erratum notice, in a later issue of the journal.

15.4.5 Corrigendum – Notification of an important mistake error made by the author(s) that affects the publication record or the academic integrity of the paper, or the reputation of the authors or the journal.

15.4.5.1 All authors must sign corrigenda submitted for publication. In cases where co-authors disagree, the editors will take advice from independent peer-reviewers and impose the appropriate amendment, noting the dissenting author(s) in the text of the published version.

15.4.5.2 Examples of corrigenda are the same as those for errata (the difference being that the authors, not the journal, made the mistakes).

15.4.5.3 Corrigenda are judged on their relevance to readers and their importance for the published record. Corrigenda are published after discussion among the editors (typically including the editors who handled the published contribution), often with the help of peer-reviewers.

15.4.5.4 Corrigenda submitted by the original authors are published if the accuracy or reproducibility of the original paper is compromised; occasionally, on investigation by the editors, these may be published as retractions. In cases where some co-authors decline to sign a corrigendum or retraction, the editors reserve the right to publish it with the dissenting author(s) identified.

15.4.5.5 Corrigenda are meant to rectify minor honest mistakes. Major problems with an article, and any cases of fraud or dishonesty shall be dealt with by retraction.

15.4.6 Addendum – Notification of a peer-reviewed addition of information to a paper, usually in response to readers' request for clarification.

15.4.6.1 Addenda are published only rarely and only when the editors decide that the addendum is crucial to the reader's understanding of a significant part of the published contribution.

15.4.6.2 Addenda are judged on the significance of the addition to the interpretation of the original publication. Addenda do not contradict the original publication, but if the authors inadvertently omitted significant information available to them at the time, this material will be published as an addendum after further peer-review and after discussion among the editors.

15.4.6.3 Generally, such clarifications should have already been done as part of the original peer-review process. The journal should note that every addendum is an indicator of inadequacy in its peer-review procedures.

15.4.7 Retraction – Notification of invalid results. The published work is rejected or disavowed because of fraud, plagiarism, ethical breaches, or other such scholarly malfeasance, or because the work is rendered invalid as a result of the malfeasance or misconduct of another author's work on which the article is based, or because of an unintentional error so severe as to invalidate the main results of the work, drastically altering the conclusions.

15.4.7.1 Journal Editors, CRCs, and DRIL are required to investigate any allegations of research misconduct related to published articles (such as data fraud or plagiarism). Where misconduct has occurred, the publication must issue a retraction notice regarding the faulty article. Though it is not possible to "unprint" a printed paper version of an article in an issue or recall the issue prints, the next issue of the journal must print the retraction notice. The notice, containing explanatory information, is also published and bidirectionally linked online, and the original article is clearly and permanently marked as having been retracted (e.g., by a watermark on each page).

15.4.7.2 Retractions are judged according to whether the main conclusion of the paper no longer holds or is seriously undermined as a result of subsequent information coming to light of which the authors were not aware at the time of publication. In the case of experimental papers, this can include further experiments by the authors or by others that do not confirm the main experimental conclusion of the original publication.

15.4.7.3 A retraction is an acknowledgement of severely faulty work and its withdrawal from the published literature. The work may be faulty as a result of error or misconduct:

15.4.7.3.1 Retraction for error – Retraction due to severe but inadvertent errors as a result of negligence or inaccuracy. For example:

15.4.7.3.1.1 Technical problem for which an exact source may or may not have been found, but which led to irreproducible or different results.

15.4.7.3.1.2 Negligence in record keeping, mislabeling.

15.4.7.3.1.3 Sloppiness in data analysis, such as using the wrong data set, copy-pasting mistakes.

15.4.7.3.1.4 Faulty calculations, statistics, or other mathematical problems.

15.4.7.3.1.5 Software / programming errors.

15.4.7.3.1.6 Mistaken assumptions or incorrect use of formulae, algorithms, or procedures.

15.4.7.3.1.7 Severe errors in logic or reasoning.

15.4.7.3.2 Retraction for fraud or misconduct – Retraction due to an intentional attempt to deceive readers, or due to the use of unethical or fraudulent methods. Any intentional misconduct, minor or major, is grounds for retraction. For example:

15.4.7.3.2.1 Presenting fabricated information or results from work that was never done, or samples or subjects that never existed as part of the study.

15.4.7.3.2.2 Presenting results based on deliberately altered data.

15.4.7.3.2.3 Deliberately altering methods to skew results without indicating the alterations in the methodology description.

15.4.7.3.2.4 Falsifying or fabricating digital images, or manipulating digital images in such a way as to alter results in desired ways.

15.4.7.3.2.5 Reproducing an article, or parts thereof, already published before in a substantially similar way. Note: limited bits of information or images may be reproduced from other publications if done so by permission and clearly indicated as reproductions.

15.4.7.3.2.6 As may be common in some fields, there may be instances when entire issues of a journal or a substantial number of articles from a particular journal are published as a book. Permission should be sought from the original journal and from each individual author for such a publication.

15.4.7.3.2.7 Plagiarism: Using an image or other piece of data or writing appropriated from another article as evidence of one's own work to claim authorship.

15.4.7.3.2.8 Intentional omission of results obtained but which do not support the desired conclusions of the study.

15.4.7.3.2.9 Omission of citations to the work of others seminal to the work in question.

15.4.7.3.2.10 Presenting results based on work conducted unethically, even if the data are technically accurate, for example, data derived from:

15.4.7.3.2.10.1 Mistreated animals.

15.4.7.3.2.10.2 Human research subjects that were harmed physically, psychologically, or emotionally against their will.

15.4.7.3.2.10.3 Human sources whose informed consent had not been sought.

15.4.7.3.2.10.4 Human sources whose privacy had been violated.

15.4.7.3.2.10.5 Any unlawful means.

15.4.7.4 All co-authors must sign a retraction specifying the error and stating briefly how the conclusions are affected, and submit it for publication. In cases where co-authors disagree, the editors will seek advice from independent peer-reviewers and impose the type of amendment that seems most appropriate, noting the dissenting author(s) in the text of the published version. In the extreme case, the editors may have to retract the article unilaterally, indicating that all the authors dissented.

15.4.7.5 Readers wishing to draw the editors' attention to published work requiring retraction should first contact the authors of the original paper and then write to the journal, including copies of the correspondence with the authors (whether or not the correspondence has been answered). The editors will seek advice from reviewers if they judge that the information is likely to draw into question the main conclusions of the published paper.

15.4.8 Removal – Deletion of content from the official record; this would typically be extremely rare.

15.4.8.1 Bibliographic information will remain a part of the official record (title, date, list of authors and affiliations, volume and page numbers), but the actual article content (including the abstract) will be removed in the event of: a court order to do so; if there is a clear risk of legal liability to the author, publisher, or copyright holder; or if the content poses a danger to the public.

15.4.8.2 Recalling printed versions would not be feasible, but the online version must be modified to remove content. A statement should be posted in place of the content indicating reasons for removal, such as a legal order if applicable.

16 Collaborations

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

16.1 Purpose

The University actively encourages and facilitates collaborations between its researchers within the University and with researchers external to it. Collaborating with an external researcher generally requires adherence to the rules and regulations of both the University and the collaborator's institution. Regardless of the nature of the collaboration, the University maintains its portion of oversight of a collaborative project by requiring approval and monitoring of the project through a CRC, or the RIC in circumstances where the lead researcher is from OVC or there is no specific lead researcher based in the Colleges. External researchers seeking to initiate a collaboration should partner with a researcher within the University. This is required for international researchers seeking to conduct their research activities within Bhutan through the University. The general considerations/best practices for collaborations are detailed in the Code of Conduct, while specific administrative polices for collaborations within and outside the University are detailed herein. Moreover, individual Colleges, research centres, and the University as a whole, may develop collaborations with other institutions, in line with the criteria provided in this Chapter.

16.2 Within the University

16.2.1 Collaborations between members of different University colleges are encouraged.

16.2.2 No special procedures are required except that a single CRC should be selected (by mutual agreement among the researchers) as the focal point for administration of the collaborative project. The other CRCs involved need simply be kept informed of the research progress through copies of the approved proposal and monitoring reports as usual.

16.2.3 In exceptional circumstances where no single CRC is appropriate, RIC will coordinate through DRIL.

16.3 Outside the University (within Bhutan or International)

16.3.1 University researchers working with non-University individuals within Bhutan need no special procedures if:

16.3.1.1 The interaction is informal in nature, e.g., discussions and requests for information.

16.3.1.1.1 There is no possibility of sharing "credit" for the work outside the University structure; the interacting partner freely gives resources, support, or information without requesting credit as a collaborator.

16.3.1.1.2 The parent institutes already have a blanket collaboration agreement in place that includes clear terms of agreement for collaborators.

16.3.2 If a formal collaboration is pursued, where there is a possibility of sharing "credit" for the work with the non-University collaborator (for example by joint authorship on publications or joint patenting of outputs), a written agreement must be in place that covers the terms of the collaboration, including benefit sharing, management of the knowledge assets and intellectual property, management of research materials and data, ethics and safety considerations, confidentiality, reporting to appropriate agencies, dissemination of research outcomes, and managing conflicts of interest – all subject to the policies laid out throughout this document. A written agreement is required to establish formal research collaboration with another institution within Bhutan or individual researchers therein. International collaborations will also require a written agreement, and may additionally require approval of relevant RGoB authorities, depending on the nature of the collaborative project.

16.3.3 University staff who are involved in formal collaborative research projects must be aware of, and comply with, all policies and written agreements affecting the project, and must seek advice from their CRC and DRIL, who may refer to the University's Legal Office, on any matters that may arise that are of concern with respect to the formal agreement.

16.3.4 Management of research materials and data will be consistent with the University's data management guidelines.

16.3.4.1.1 Each collaborating institution will identify a person from their institution who is to be involved in the management of research data, primary materials and other items to be retained at the end of the project.

16.3.4.1.2 Where the primary researcher for a joint research project is a University staff member, the University will normally be the holder of the research materials and data.

16.3.4.1.3 The arrangement for shared access to research materials and data must be negotiated prior to commencement of the research project and must be included in the formal written agreement and documented as required under University policy.

16.3.4.1.4 If the University is not the holder of the research materials and data, information about the holder and subsequent repository of the research materials and data must be documented by the University researcher and filed with the CRC.

16.3.5 Management of Knowledge Assets and Intellectual Property, including Copyright, will be consistent with the University's Intellectual Property policy. It is essential that the formal agreement between University and a collaborating organization include identification of creators, distribution and ownership of Knowledge Assets before, during and after the conclusion of a collaborative research project.

16.3.6 Ethics and Safety clearances must be obtained prior to commencement of the research.

16.3.6.1 Where a University staff member is the primary researcher on a collaborative research project with researchers from another institution and the research project involves human participants, approval for the research project must be obtained from the CRC's HREC and, as required from equivalent committees of the collaborating institutions, prior to the commencement of the research.

16.3.6.2 Where a University staff member is an associate researcher or co-investigator on a research project involving human participants which is initiated at another institution, an application to the CRC's HREC for ethics approval is required prior to commencement of the research. A copy of the human research ethics clearance from the lead collaborating institution must be submitted with the application to the CRC.

16.3.6.3 Where a University staff member is the primary researcher on a collaborative research project with researchers from another institution and the research involving vertebrate animals, approval must be obtained from the CRC's AEC prior to commencement of the research.

16.3.6.4 Where a University staff member is an associate researcher or co-investigator on a research project involving vertebrate animals which is initiated at another institution, an application to the CRC's AEC for ethics approval is required prior to commencement of the research. A copy of the animal research ethics clearance from the lead collaborating institution must be submitted with the application to the CRC.

16.3.6.5 All research undertaken at the University must meet the government requirements and University policies pertaining to Health and Safety.

16.3.7 Confidentiality

16.3.7.1 Confidentiality requirements under relevant legislation, agreements, research ethics requirements and other relevant professional standards with respect to research materials and data must be met.

16.3.7.2 The nature and scope of confidentiality requirements must be agreed upon by the collaborating researchers and documented in the formal agreement between institutions.

16.3.7.3 Confidential materials must be stored securely and researchers who are given access to confidential materials must maintain that confidentiality and use the information only in ways that are consistent with ethical and legal requirements and agreed to by those who gave the information.

16.3.7.4 When a University researcher uses data which is held outside the University, details of the source of the data, arrangements for its storage and the agreement, including any confidentiality issues, with the holding institution must be documented by the University researcher and filed with the CRC.

16.3.8 Sharing Commercial Returns

16.3.8.1 Where it is anticipated that there will be commercial returns resulting from a collaborative research project, the formal agreement between partner institutions to the project must include details about distribution of those returns, and must be consistent with the University's guidelines on benefit sharing.

16.3.9 Reporting to Appropriate Agencies

16.3.9.1 The formal agreement between the University and the collaborating institution(s) should include details about which institutions will meet the reporting requirements to relevant agencies.

16.3.9.2 Where a University staff member is the primary researcher, he/she will normally have primary reporting responsibilities.

16.3.9.3 Where the research project has required ethics or safety clearances from the relevant CRC committees, then the normal reporting requirements on progress against those approvals must be met.

16.3.10 Dissemination of Research Outcomes

16.3.10.1 The means by which research outcomes will be disseminated must be agreed upon and documented in the formal written agreement between the collaborating institutions.

16.3.10.2 The University staff members who are involved in the collaborative research project must comply with the University's authorship and publication guidelines.

16.3.10.3 In disseminating research outcomes, all collaborating researchers must adhere to confidentiality, knowledge assets and intellectual property conditions agreed to under the formal agreement between the collaborating institutions, and any other relevant legislative, industry or professional requirements.

16.3.11 Conflict of Interest

16.3.11.1 Researchers involved in collaborative research projects need to be aware when a potential conflict of interest may arise and are required to disclose and manage conflicts of interest arising in collaborative research.16.3.11.2

16.4 External (International) Researchers Interested in Conducting Research in Bhutan

16.4.1 The University shall encourage/facilitate international researchers to conduct research studies in the country in areas that it may deem essential. All such research may be carried only after signed agreements with the University. The agreements should indicate guidelines to be in place to ensure protection of research areas in Bhutan and the fair credit sharing of the work of any Bhutanese researchers involved.

16.4.2 Any conduct of research by universities, organizations or individuals of foreign origin shall require a Co-researcher and therefore the identification of a Co-researcher shall precede the Office of the Vice Chancellor's/College's invitation of research experts from foreign university or an individual. In the case of foreign student researchers, a supervisor from the parent institute and a Bhutanese co-supervisor must be identified.

16.4.3 The ownership and patenting shall be in accordance with the collaborating universities' research policies in place. Any credit- or revenue- sharing agreements should be made and clarified in writing prior to commencing the research.

16.4.4 Collaborative research in the university shall normally be with a researcher who is affiliated to research institutions, universities, or other organizations with credibility and capability to engage in research.

16.4.5 All joint research or studies shall require prior approval of DRIL.

16.4.6 Database of researches/studies conducted shall be maintained by the Department of Research at the Office of the Vice Chancellor.

16.4.7 Initial requirements – An external researcher wishing to carry out research in Bhutan shall be required to submit the following:

16.4.7.1 A copy of the research proposal jointly developed between the external researcher and the collaborating researcher in an RUB College/Institute/OVC

16.4.7.2 A brief resume or curriculum vitae

16.4.7.3 Duration required for completion of the research

16.4.7.4 Indication of source of research funding

16.4.7.5 A letter of consent from the supervisor/parent institute indicating approval of the research proposal

16.4.7.6 All foreign researchers in Bhutan shall conduct their research in collaboration with a member(s) of the faculty of the University. Student foreign researchers shall work with a University faculty co-supervisor.

16.4.8 Application

16.4.8.1 The proponent shall either apply to the Director of Research at the Office of the Vice Chancellor (OVC) or apply directly to the host institute or the Co-researcher.

16.4.8.2 Outcome of the application shall be intimated within 45 days (from the date of receipt of application).

16.4.9 Acceptance of a proposal – The acceptance of the proposal shall be based on, but not limited to, the following conditions:

16.4.9.1 Relevance and usefulness of the research for Bhutan either at present or in the future.

16.4.9.2 Availability of Co-researcher (or Co-supervisor in the case of students).

16.4.9.3 Ethical approval from both the parent and host institutes are cleared between the external researcher and the co-researcher/the host institute.

16.4.9.4 A letter of financial guarantee to ensure adequate financial support to meet the expenses of the external researcher while in the country as well as the RUB researcher (where applicable).

16.4.10 Other conditions

16.4.10.1 Entry into the country shall depend upon fulfilment of conditions as required by the appropriate authority in Bhutan.

16.4.10.2 The external researcher shall abide by the University research policies, procedures and guidelines in place.

16.4.10.3 A Terms of Agreement shall be signed between the external institute/researcher, co-researcher and the host institute/Office of the Vice Chancellor.

16.4.10.4 The external researcher shall make an oral presentation of the proposal to the respective CRC before the commencement of the study to allow incorporation of any changes suggested by the host institute and agreed upon during the presentation.

16.4.11 Terms and Conditions for the Co-researcher/Co-supervisor

16.4.11.1 The co-researcher/co-supervisor shall be responsible for ensuring proper conduct of the research.

16.4.11.2 The co-researcher/co-supervisor shall ensure that his/her college responsibilities and duties are not hampered during the time away on research.

16.4.11.3 The co-researcher/co-supervisor shall ensure that all financial arrangements have been confirmed before commencement of the research.

16.4.11.4 The co-researcher/co-supervisor shall abide by the Research Code of Conduct of the University.

16.4.11.5 The co-researcher/co-supervisor shall be supportive to the external researcher as a guest of the college and the Kingdom during his/her stay in the country.

16.4.11.6 All financial transactions shall be based on the standard procedures prevailing in the country.

16.4.11.7 The co-researcher/co-supervisor shall not receive any payments from the external researcher/intern or parent institute for the research covered under this Agreement unless a system to that effect is instituted and approved within the University

16.4.11.8 The co-researcher/co-supervisor, the intern or the external researcher shall be answerable to the head of the host institute, and to DRER, OVC in cases where it is deemed necessary by the host college.

16.4.12 Acceptance letter

16.4.12.1 In case of the research hosted by the host institute, the CRC will be involved in all the procedures described above. The host institute will then write an invitation letter to the external researcher and initiate all requirements for the visit through proper channel. By way of information, a checklist of all appropriate documents and communication materials should be sent to the Director of Research, Office of the Vice Chancellor.

16.4.12.2 In case of the research initiated by the Office of the Vice Chancellor, the Department of Research at the Office of the Vice Chancellor will take all necessary steps as per the existing norms.

16.5 Inter-Institution Research Collaborations

16.5.1 Individual colleges, research centres, and the university as a whole, may develop linkages with other institutions within and outside Bhutan. Criteria for establishing institutional linkages are:

16.5.1.1 Compatibility with the University – Any agreement with an external institution should be structured to protect the basic values of the University and the Nation, and align in principle with the University's strategic plans.

16.5.1.2 Relevancy and need – The areas of collaboration should be relevant to the University in general and the college in particular.

16.5.1.3 Recognition – The collaborating institution should be a recognized academic institution.

16.5.1.4 Institutional Linkage – The collaboration should be between the University/College and the external institution. However, individual collaboration between individuals will also be encouraged within the institutional-linkage framework.

16.5.1.5 Duration of Collaboration – The collaboration should be up to a period of five years and may be reviewed and renewed on mutual agreement.

16.5.1.6 Mutual Benefit – There should be mutual benefit from the collaboration for both the institutions, in terms of research outputs accomplished, capacity built, knowledge generated and exchanged, and innovation achieved.

16.5.1.7 Cost effectiveness and sustainability – The collaboration should be cost effective and sustainable.

16.5.2 Every inter-institutional linkage requires a Memorandum of Understanding endorsed by the RIC, signed by the focal persons at either institute, and approved by the VC.

17 University Research Centres/Institutes

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

17.1 Purpose

In order to develop appropriate infrastructure, enhance research capacity and support, and help maintain a sustainable financial base for research, it is appropriate for Colleges to have Centres dedicated to thematic research and which could support linkages with specific industries. Research Centres are established to enhance the research reputation of the University and its academics. Research centres shall exist within the other structures and policies given in this handbook. Each Centre shall be headed by a Coordinator from within the relevant faculty at a College, who reports to the DRIL. The DRIL is responsible for oversight of the Centre and ensures its proper functioning within the overall College research environment and strategic plans.

17.2 Institutional goals

17.2.1 Research centres should help maximize the amount of externally funded research conducted at the University. The centres are expected be substantially self-funded.

17.2.2 Support and promotion of thematic research

17.2.2.1 Centres will be responsible for research, dissemination and documentation related to their field of expertise/mandate. Funding from government or private sources may be sought to carry out their mission. These centres will also venture into collaborative research and services with relevant external partners.

17.2.2.2 Centres shall align individual research activities to the overall University research goals.

17.2.2.3 Centres may choose to support and fund specific research projects, but all such research must have the approval of CRCs and be subject to all the policies laid out previously.

17.2.2.4 Centres shall function as infrastructure for stimulating research throughout the College, not just within the Centre. This could include:

17.2.2.4.1 Providing research training.

17.2.2.4.2 Supporting the formation of research groups of personnel with similar research interests.

17.2.2.4.3 Helping researchers formulate proposals.

17.2.2.4.4 Brainstorming ideas for research projects.

17.2.2.4.5 Providing forums for informal research discussions such as weekly research presentation clubs or journal clubs.

17.2.2.4.6 Providing formal forums for presentation of research findings, such as poster displays, seminars, conferences, or publications.

17.2.2.4.7 Promoting research-informed teaching and learning.

17.2.3 Industrial Linkage

17.2.3.1 A Centre will help facilitate and promote University-Industry relations at the College level.

17.2.3.2 The University-Industrial linkage can range from simple consultations or visits to in-depth research. Some of the activities could be consultancies, joint research, joint publication, conferences, etc.

17.2.3.3 Some of the specific benefits of such symbiotic relationships with the industry are:

17.2.3.3.1 Opportunity to attract funds, leading to acquisition of latest technology for teaching and research thereby facilitating financial autonomy.

17.2.3.3.2 Enhancement of University's image as contributor to the economy through socially relevant and progressive education.

17.2.3.3.3 Gaining practical experience by the students and the opportunity for application of their theoretical knowledge and contact with practicing professionals.

17.3 Establishment

17.3.1 A proposal for a research centre meeting the minimum requirements will be approved by the AB, following the endorsements of RIC and the respective College's IAC.

17.3.2 The proposal should be assembled and submitted as described according to guidelines communicated by DRIL, and must include a Terms of Reference that details:

17.3.2.1 Vision statement, in line with University and RGoB research goals and objectives

17.3.2.2 Mission statement

17.3.2.3 Governance structure and membership

17.3.2.4 Research focal areas

17.3.2.5 Resources to be used to sustain the Centre, including funding, facilities and HR

17.3.2.6 Proposed activities

17.3.2.7 Key performance indicators

17.4 Operations, Performance, Reporting, and Review

17.4.1 Research centres shall operate within their Terms of Reference, and subject to the research processes outlined in the policies here. Individual University researchers may be affiliated with Centres, but their research work still comes under the jurisdiction of CRCs and DRIL.

17.4.2 All Research Centres are expected to establish and maintain a current web presence with a link back to DRIL.

17.4.3 All academic staff at the University report to a College for the purposes of workload and performance reporting, to ensure coordination and the delivery of research-informed teaching. Research attachments to a Centre do not relieve academics of their obligations of service, nor their obligations to support or engage in teaching roles for their College. The duration of any research attachment to a Research Centre for a staff member is subject to negotiation between the Centre Coordinator, DRIL, the relevant Head of School/Department, and the Dean of Academic Affairs for the staff member.

17.4.4 It is expected that a Centre will demonstrate success against the following criteria, weighted as appropriate for the strategic objectives of the Centre in the context of the overall University strategic plan and Faculty/School/College strategic objectives. These criteria, appropriately weighted, will form the basis of any Key Performance Indicators proposed for the Centre:

17.4.4.1 Pursuit, by a number of staff, within and beyond the College, of a coordinated research and consultancy programme or programmes which will enhance the College's reputation and research income in areas of strategic importance to the College.

17.4.4.2 Support of the research programme through external funding.

17.4.4.3 Interaction between the Centre's research programme and the teaching and learning enterprise of the College concerned to help achieve the University's vision and enhance its reputation with respect to research-informed teaching.

17.4.4.4 Development of the research careers and reputation of the staff of the College concerned.

17.4.4.5 Active collaboration withother relevant institutions and users of the research.

17.4.5 The Coordinator of a Centre is a faculty member from within the College and is responsible for all matters concerning the Centre. He/She has the same status as a Head of School/Department on all matters related to the Centre except those concerning the workload and performance appraisal of staff who are on research attachment with the Centre but have their primary affiliation with a Department or School within the College.

17.4.5.1 The Coordinator is appointed by the IAC for a term of three years, extendable upon mutual agreement.

17.4.5.2 The Coordinator reports to the DRIL and the IAC. The Coordinator shall, in addition to managing the Centre activities, also take on reasonable teaching responsibilities as per the College's workload policy.

17.4.5.3 The Coordinator is responsible for the budget, research direction, and resourcing of a Centre. Centres are responsible for short-, medium-, and long-term target settings with mechanisms for monitoring progress (Key Performance Indicators).

17.4.5.4 The Coordinator is responsible for management of attached staff within the Centre, subject to the reporting arrangements for academic staff to their home Departments/ Schools.

17.4.5.5 The Coordinator negotiates with relevant Heads of Departments/Schools for the level of attachment of staff with the Centre and the terms under which the staff are deputed.

17.4.6 Centres shall submit an annual interim report to the DRIL for onward reporting to the IAC and forwarding to RIC as per the guidelines communicated by DRIL. The RIC can respond with suggestions and support, and may occasionally be able to point out untapped resources. RIC meeting minutes would reflect these activities of the research centres and be reported to the AB.

17.4.7 Comprehensive reviews of Centre activities shall be conducted by the RIC or a RIC-formed review committee every three years, at which point the Centre shall submit a full report of its performance of the past three years as well as its next three-year plan, including new KPIs. The primary criteria for review will be actual performance against the previously-nominated KPIs. The RIC may recommend to the AB that the Centre be continued, continued subject to modification and review as specified, or disestablished.

17.4.7.1 If the recommendation is to continue the centre, the review committee may recommend expected or suggested adjustments to the relevant Coordinator.

17.4.7.2 If the recommendation for the centre to be continued subject to modification and review, the committee shall specify modifications which are mandatory and shall also determine the review process and timing to evaluate compliance.

17.4.7.3 If the recommendation is disestablishment, the committee shall determine the timing and mechanism for disestablishment.

18 Research Degrees

Endorsed by: 14th Research & Innovation Committee Meeting (October 2013)
Approved by: 29th Academic Board Meeting (January 2014)

18.1 Purpose

The conduct of higher degree research at the University serves as a potential gauge of the nation's research capacity and mirror for its intellectual health. The University therefore places great value on the successful conduct of its research degree programmes as part of its responsibility to promote discovery and analysis, and encourage a culture of curiosity and enquiry. Research degree programme leaders and research supervisors have a duty not only to encourage but also to embody sound research conduct and habits with the utmost care. Research degree students are expected to familiarize themselves with the best practices and standards in their fields and to conduct their research activities with the highest level of integrity and commitment to excellence.

18.2 Research Degrees Framework

18.2.1 The University offers research degrees (Research Master's degrees and PhD degrees) administered by the Research Degrees Committee of the Academic Board as set forth in the University's Research Degrees Framework.

18.2.2 The Research Degrees Framework is the authoritative reference and governing policy for all research degree programmes within the University.

18.2.3 As with any other research conducted within the University, research activities carried out by research degree students must be approved by CRCs and shall be in compliance with all the policies given herein.

Definitions

Academic freedom (in relation to research) means the ability of an educator or a student to engage in the study of any topic and disseminate information or express ideas, opinions, and perspectives arising from such a study, without fear of arbitrary restriction or interference by the university or public officials. Academic freedom is exercised with full regard to national interests and the laws of the land. Hence, any research or work of scholarship (including its process as well as product) that has institutional affiliation with the Royal University of Bhutan will ensure that it does not in manner affect the sovereignty, security, and integrity of Bhutan.

Co-researcher means an employee of RUB engaged in a research in partnership with an external researcher and vice-versa.

Collaborative Research and Services are defined as activities/projects that are provided in partnership with an external agency or agencies.

College is defined as any member college/institute of the Royal University of Bhutan.

College Research Committee or CRC is the committee that is responsible for coordinating research and services at the college level.CRC is the College Research Committee responsible for all research and consultancy services at the college level.

Director is defined as the Head of a member college of RUB.

External Agency is defined as any individual, private/public/government agency or any other legal entity other than the University (including those within or outside Bhutan).

External Researcher means a researcher outside RUB (including someone within or outside Bhutan) and engaged in research in partnership with an RUB researcher.

Faculty is defined as member of the academic staff or academic support staff employed by the University under regular, contract, temporary or part-time services.

Hazardous substances are those which because of their quantity, concentration, persistence or physical, chemical or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

Host Institute means the institute in which the co-researcher is currently employed.

Joint Research means: Research undertaken by a foreign organization or its employee in partnership with a RUB staff; Research undertaken by RUB in partnership with other agencies within Bhutan; A research undertaken in partnership by two or more RUB colleges.

Office of the Vice Chancellor or OVC is the University's central coordinating office.

Parent Institute means the university or college/faculty/school/organization that currently employs the external researcher.

Research is defined as any work that the University or the faculty undertakes and which leads to creation/ development of knowledge of various forms.

Research and Innovation Committee, or RIC, is a standing committee of the University Academic Board, responsible for university research.

Services are defined as any work that the University or the faculty undertakes and which contributes to community and to academic and professional organizations.

Trainee refers to anyone learning to be a researcher under an established researcher's supervision. This includes principally graduate students and postdoctoral fellows (postdocs), but may also include undergraduate and high school students working on research projects or junior research faculty, research scientists, and research staff.

University is defined as The Royal University of Bhutan.

University Research and Services are any research and services carried out by the faculty in his/her capacity as University faculty, irrespective of whether they involve the use of University resources and facilities or not. University Research and Services shall include, but not be limited to: Routine laboratory and other testing of materials, devices and products; Standard data analysis; Survey, including market and opinion survey; Field trials; Short courses; Professional expertise in any field and subject.

Acknowledgements and References

ZHIB 'TSHOL: RUB Research Policies have been developed with significant input of the best practices found at several of the world's leading Universities and research institutions. The following sources were consulted in the development of this Handbook.

Research policies from:

- University of New England, Australia – http://www.une.edu.au/policies/
- Stanford University, USA – http://rph.stanford.edu
- Harvard University, USA – http://vpr.harvard.edu
- Massachusetts Institute of Technology – http://web.mit.edu/policies/14/14.1.html

Responsible conduct of research:

- Steneck, N. (2007). ORI Introduction to the Responsible Conduct of Research. Office of Research Integrity, US Department of Human and Health Services. http://www-personal.umich.edu/~nsteneck/researchintegrity/RCRintro/index.html
- Singapore Statement on Research Integrity (2010) 2nd World Conference on Research Integrity. http://www.singaporestatement.org

Guidelines on human-subjects research:

- American Association for Public Opinion Research. IRB FAQs for Survey Researchers. http://www.aapor.org/IRB_FAQs_for_Survey_Researchers1.htm
- Declaration of Helsinki. Wikipedia. http://en.wikipedia.org/wiki/Declaration_of_Helsinki
- World Medical Association. Declaration of Helsinki - Ethical Principles for Medical Research Involving Human Subjects. http://www.wma.net/en/30publications/10policies/b3/index.html
- Council of European Social Science Data Archives. Research Ethics. http://www.cessda.org/sharing/rights/4/
- US Department of Health & Human Services. Code of Federal Regulations - Protection of Human Subjects. http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html
- Bromage, A. (2008). A brief note on research ethics. A page from the website Highereducationresources', Birmingham: Highereducationresources. http://highereducationresources.atspace.com/ethics.htm

Guidelines on animal research:

- US National Academy of Sciences. (2003). Guidelines for the Care and Use of Mammals in Neuroscience and Behavioral Research. Regulatory and Ethical Considerations. Washington DC: National Academies Press. http://www.ncbi.nlm.nih.gov/books/NBK43323/

- US National Institutes of Health, Office of Laboratory Animal Welfare. Public Health Service Policy on Humane Care and Use of Laboratory Animals. http://grants1.nih.gov/grants/olaw/references/phspol.htm

Policies of Bhutanese agencies:

- Constitution and laws of the Kingdom of Bhutan (2008) – http://www.constitution.bt/
- Royal Charter of the Royal University of Bhutan (2003) – http://www.rub.edu.bt/index.php/the-royal-charter
- The Wheel of Academic Law of the Royal University of Bhutan (2011) – http://www.rub.edu.bt/regulation/
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