UTeM

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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

PEKELILING PENTADBIRAN

BILANGAN 9 TAHUN 2021

POLISI PENYELIDIKAN
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

Pejabat Pendaftar
18 Januari 2021 | *5 Jamadilakhir 1442H*

Disalinkan kepada:

Naib Canselor
Timbalan Naib Canselor (Akademik dan Antarabangsa)
Timbalan Naib Canselor (Penyelidikan dan Inovasi)
Timbalan Naib Canselor (Hal Ehwal Pelajar)
Penolong Naib Canselor (Jaringan Industri dan Masyarakat)
Penolong Naib Canselor (Pembangunan dan Pengurusan Fasiliti)
Pegawai-Pegawai Kanan
YDP Majlis Perwakilan Pelajar

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

UTEM100-1/3/1(38)

PEKELILING PENTADBIRAN BIL. 9/2021

POLISI PENYELIDIKAN
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

1.0 TUJUAN

1.1 Pekeliling Pentadbiran ini dikeluarkan bertujuan untuk memaklumkan kepada pengetahuan semua staf Universiti Teknikal Malaysia Melaka (UTeM) mengenai pemakaian Polisi Penyelidikan Universiti Teknikal Malaysia Melaka (UTeM).

1.2 Pemakluman ini adalah selaras dengan kelulusan oleh Mesyuarat Lembaga Pengarah Universiti Bilangan 5 Tahun 2020 pada 16 Disember 2020 yang lalu.

2.0 LATAR BELAKANG

2.1 Polisi Penyelidikan ini disediakan adalah untuk menjadi garis panduan kepada pemilik teras, pihak Pengurusan Universiti serta staf akademik Universiti mengenai peranan dan tanggungjawab mereka dalam penyelidikan dan Inovasi.

Polisi Penyelidikan ini akan membantu dalam memperkasakan ekosistem penyelidikan di UTeM. Ini seterusnya akan meningkatkan prestasi penyelidikan, memacu kepada pencapaian output yang berkualiti tinggi dan unggul di samping melaksanakan penyelidikan yang meliputi penguasaan ilmu dalam membangunkan bidang tujahan di peringkat global.

3.0 PELAKSANAAN

3.1 Polisi Penyelidikan ini dirangka selaras dengan Pelan Strategik UTeM 2021-2025 (UTeM's 7 *goals*) dan turut menerapkan elemen konsep T.U.N.A.I. (*Technology @ University Advancing Industry and Society*). 5 tunjang utama yang terangkum di dalam polisi penyelidikan adalah seperti berikut:

  i.   Governan (*Governance*)
  ii. Strategi Penyelidikan & Inovasi (*Research & Innovation Strategy*)
  iii. Pengurusan Bakat dan Hubungan Strategik (*Talent Management and Strategic Partnership*)
  iv. Pencapaian dan Pengiktirafan (*Achievement and Recognition*)
  v.   Etika Penyelidikan (*Research Ethics*)

3.2 Perincian Polisi Penyelidikan UTeM adalah seperti di Lampiran 1.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

"KOMPETENSI TERAS KEGEMILANGAN"

Saya yang menjalankan amanah,

MASDZARIF BIN MAHAT
Ketua Pegawai Operasi
Universiti Teknikal Malaysia Melaka

sya/izwanicrim/snd/bgpo

RESEARCH POLICY
UNIVERSITI TEKNIKAL MALAYSIA MELAKA

ABBREVIATION

AMCT	Advanced Manufacturing and Computing Technology
CoE	Centre of Excellence
CRIM	Centre for Research and Innovation Management
GPPP	*Garis Panduan Pengurusan Penyelidikan (2019)*
GRA	Graduate Research Assistant
HICoE	Higher Institution Centre of Excellence
IPR	Intellectual Property Rights
JKTSPI	*Jawatankuasa Tetap Senat Penyelidikan & Inovasi /*
	Senate Standing Committee on Research and Innovation
MoA	Memorandum of Agreement
MOHE	Ministry of Higher Education
MoU	Memorandum of Understanding
MyRA	Malaysia Research Assessment
Policy	UTeM Research Policy
RG	Research Group
R&I	Research & Innovation
DVCRI	Deputy Vice Chancellor (Research & Innovation)
UCC	UTeM Commercialization Centre
URIS	UTeM Research Information System
VC	Vice Chancellor
UTeM	Universiti Teknikal Malaysia Melaka
UTourism	Center for Edu-Tourism UTeM

INTERPRETATION

In this Policy except to the extent that the context otherwise requires:

(a) words denoting the singular shall include the plural and vice versa;

(b) words denoting individuals shall include corporation and vice versa;

(c) headings are for convenience only and shall not affect the interpretation hereof; and

(d) references to Clauses, Appendices, Annexure and Schedules are reference to Clauses, Appendices, Annexure and Schedules of this Policy.

TABLE OF CONTENT

1.0 INTRODUCTION

This Policy serves as the main reference for R&I practices by embedding the concept of T.U.N.A.I or Technology @ University Advancing Industry and Society, along with UTeM's Strategic Plan (7 goals). It is designed primarily for academic staff, researchers, administrators, students, collaborators and partners.

2.0 VISION AND MISSION

Vision

To Be One of the World's Leading Innovative and Creative Technical Universities.

Mission

UTeM is determined to lead and contribute to national and international well-being by:
- promoting knowledge through innovative teaching, learning, research and technical scholarship.
- developing professional leaders with impeccable moral values.
- generating sustainable development through smart partnerships with the community and with industry.

R&I Objectives

The strategic R&I objectives of UTeM are to lead the development of sustainable solutions and state-of-the-art technology for the future needs of industry and society. This includes fundamental and applied types of R&I with the following objectives:
- To encourage translational and multidisciplinary research approaches.
- To create indigenous industrially relevant technology.
- To produce high-impact technical-based research and publications.
- To develop expertise in niche areas of technology.
- To enhance IPR, technologies, processes and commercialisation of innovative products.
- To develop a highly reputable research centre.

3.0 ECOSYSTEM

The R&I ecosystem is an interrelationship between stakeholders for the growth and sustainability of R&I at UTeM. Stakeholders consist of UTeM senior management, academic staff, researchers, students, CoEs, UCC, UTourism, faculties/institutes, sponsors, the media, public and private agencies and industries, as well as the community. Each stakeholder provides mutual reinforcement by playing various roles effectively and by coordinating diverse factors within the R&I value chain.

4.0 THRUSTS OF POLICY

Five (5) thrust components have been identified to ensure the successful implementation of R&I initiatives and achievements. These thrusts are the R&I pillars for the execution of UTeM Strategic Plan (2012-2020) and are further enhanced by 7 strategic goals (2021-2025). The R&I thrusts are as follows:

- Thrust 1: Governance
- Thrust 2: Research and Innovation Management
- Thrust 3: Talent Management and Strategic Partnerships
- Thrust 4: Achievement and Recognition
- Thrust 5: Research Ethics

4.1 GOVERNANCE

Research governance is empowered to be R&I centric by creating an organised system that will facilitate and intensify research activities. The research governance structure consists of the Senate at the highest level, followed by the JKTSPI and the R&I Committee. These entities are authorised to manage the strategic plans, execution and performance of R&I. This statement is referred to as **Appendix 1** herein for the Terms of Reference of Research and Innovation Governance Structure.

4.1.1 The Senate

The Senate is responsible for, but not limited to, enacting legislation governing scholars as well as the teaching, learning, research and innovation activities of UTeM in accordance with UTeM's Constitution.

4.1.2 The JKTSPI Committee

The JKTSPI is chaired by the DVCRI. The committee comprises the following:

(a)   Permanent Members:
- i.   Deans of Faculties
- ii.   Dean of the Institute of Technology Management and Entrepreneurship
- iii.   Dean of the Postgraduate Studies Centre
- iv.   Dean of the Centre for Language Learning (CeLL)

(b)   Ex-officio members:
- i.   Director of CRIM
- ii.   Director of AMC
- iii.   Bursar
- iv.   Chief Information Officer
- v.   Director of UCC
- vi.   Director of UTourism
- vii.   Members who are recommended by the meeting and the DVCRI

Please refer to **Appendix 2** herein for the Terms of Reference of the JKTSPI.

4.1.3 The Research Management Centre

CRIM was established to manage research and innovation activities, and to monitor performance. The Centre is primarily committed to managing the following R&I activities:

- a)   Assist researchers in securing research grants, especially in meeting specific procedural requirements.
- b)   Manage, coordinate and monitor research grants, technical and financial progress reports through URIS.
- c)   Encourage exploitation of research output towards IPRs and commercialisation.
- d)   Promote a research culture among academics and students.

4.1.4 The R&I Committee

The Research and Innovation Committee is chaired by the DVCRI. The committee comprises the following:

- a)   Director of the CRIM;

b) Two (2) Deputy Directors of the CRIM;

c) Director of UCC;

d) Coordinator of Journals and Conferences;

e) Manager of CoEs;

f) Deputy Deans (Research and Postgraduate Studies/Industrial Linkages);

g) Director of AMC; and

h) Director of UTourism

Please refer to **Appendix 3** herein for the Terms of Reference of R&I Committee.

4.1.5 CoEs

CoEs comprise all CoE managers and CoE members (researchers) who are responsible for:

a) planning, managing and coordinating CoEs;

b) planning, managing and conducting research activities based on each CoE niche area that involves internal and external parties; and

c) providing solutions to internal and external parties.

4.1.6 Journals and Conferences Committee

The Chairman and members of the Journals and Conferences Committee are appointed by the DVCRI. The committee comprises Chief Editors and UTeM-registered journal editors. The Committee is responsible for:

a) facilitating publication and executing UTeM journals;

b) monitoring performance of UTeM journals;

c) encouraging research publications in international refereed and high-impact journals;

d) identifying reputable journals;

e) strategically planning for UTeM journals to achieve higher journal indexing (e.g. ERA, Scopus, WoS indexing); and

f) facilitating and monitoring conferences held by UTeM.

4.1.7 The Intellectual Property Technical Evaluation Committee

The Intellectual Property Technical Evaluation Committee is chaired by the Director of UCC. The committee comprises the Director of UCC, selected representatives from the faculties and legal advisors. This technical committee is responsible for assisting the evaluation of technical aspects of every intellectual property application submitted by researchers.

Please refer to **Appendix 4** herein for the Terms of Reference of the Intellectual Property Technical Evaluation Committee.

4.1.8 Intellectual Property and Commercialisation Committee

The Intellectual Property and Commercialisation Committee is chaired by DVCRI. The committee comprises the Director of UCC, Director of the CRIM, Director of AMC, Deans from Faculties/Institutes/Centres and CoE Managers. This committee is responsible for certifying and approving every IP application that has been vetted through the Intellectual Property Technical Evaluation Committee.

Please refer to **Appendix 5** herein for the Terms of Reference of the Intellectual Property and Commercialisation Committee.

4.1.9 UTourism

The Centre for Edu-Tourism was established under the DVCRI. The centre is headed by a director, and assisted by a deputy director, two coordinators, an assistant registrar, an administrative assistant and an assistant engineer. The centre is primarily committed to the following establishment objectives:

a) Translating UTeM research results into sustainable tourism packages by utilising UTeM equipment and facilities, which can benefit industry and society and lead to visible and global prominence.

b) Generating UTeM income through research & innovation products and expert knowledge-sharing programmes in tourism-related activities/packages with aim of becoming financially stable.

4.1.10 Faculty Research and Postgraduate/Industrial Linkages Committee

The Research and Postgraduate Committee was established in each faculty/centre and is chaired by its Dean. The committee comprises the Deputy Dean (Research and Postgraduate/Industrial Linkages), Heads of Departments and other appointed academic staff. This committee is responsible for:

a) managing and monitoring research and postgraduate/external collaboration activities.

b)   coordinating and promoting research laboratories to internal and external parties for research, training and consultation services.

4.2   RESEARCH AND INNOVATION STRATEGY

R&I culture and activities are essential to support the R&I agenda in pioneering future technology, enabling UTeM to become a solution provider for various categories of industrial and societal advancement. UTeM's research and innovation strategy focuses on strategic and research excellence initiatives. These initiatives are directed towards the achievement of strategic results through ethical, synergistic relationships between research, innovation and commercialisation, internal processes and stakeholders/customers.

4.2.1   Strategic Initiatives

In promoting excellence in R&I, these strategies should be followed:
a)   Innovate and invent new technologies, products and processes through high-impact research and strategic UTeM-industry collaborations.
b)   Secure and obtain funds from various sources including industries and other agencies through collective effort.
c)   Reinforce UTeM-industry relationships through research collaborations.
d)   Conduct translational and multidisciplinary research approaches.

AMCT is the primary UTeM niche area. AMCT involves the design and integration of innovative technologies to create advanced products and processes in manufacturing and computing. AMCT is supported by the following focus areas:
a)   Green Technology
b)   Emerging Technology
c)   System Engineering
d)   Human-Technology Interaction
e)   Computing Technology

These focus areas are incorporated within the concept of the Fourth Industrial Revolution (IR 4.0).

4.2.2   Research Excellence Initiatives

RGs and CoEs have been established to intensify high-impact research output. Both entities shall be competent and able to provide total industrial solutions to reflect their high-performance index. The index is aligned with standard instruments to measure the relevance of the RGs and CoEs in relation to the needs of academics and industries. Upon reaching a satisfactory level of excellence, CoEs may have the opportunity to apply for Higher Institution Centres of Excellence (HiCoE) status at ministerial level.

4.3   TALENT MANAGEMENT AND STRATEGIC PARTNERSHIP

UTeM places emphasis on identifying, shaping and developing world-class R&I talents, particularly in multidisciplinary research activities, strategic collaboration and partnerships as well as providing total solutions for industry and the community/society.

4.3.1   Multidisciplinary Research

The multidisciplinary research approach is an indispensable element of the development of excellence in research and innovation. This research approach is one of the important criteria outlined by the MoHE and other related ministries to secure research grants. Researchers are encouraged to incorporate technologies in order to produce high-impact research outcomes, particularly those which benefit the community/society and the nation. Hence, UTeM executes the following strategies:

a) To empower interdisciplinary projects among research groups within CoEs.

b) To enhance inter-disciplinary, inter-UTeM research collaborations and smart partnerships with strategic industries.

c) To reinforce R&I capacities and capabilities in terms of human capital and technological infrastructure.

d) To establish strategic networking with international research and industrial organisations.

4.3.2   Acculturation of Research and Innovation

Acculturation of positive attitudes towards R&I is crucial in developing a conducive ecosystem for research, invention, innovation and technopreneurship directed towards high-

impact research. Researchers are encouraged to discover new products that provide solutions for industry and the community/society (translational research types). Such a move will enable researchers to penetrate the global market.

Sustaining excellence in research is critical in order to enhance national competitiveness and economic growth. Hence, researchers must be passionate, focused and driven to advance strategic knowledge, while at the same time possess the technological foresight relevant to the needs of present and future industries. The following initiatives should be taken:

a) Mentoring and coaching between senior and junior researchers.

b) Enhancing research and strategic collaboration with other universities and industries.

c) Increasing publication in high-impact and indexed journals.

d) Promoting research and innovation output in local and international established research exhibition events.

e) Developing and executing an effective research management system.

f) Identifying R&I talents and nurturing them to excel at national and international levels.

g) Conducting niche-driven research.

4.3.3 Establishment of RG

RG is led by a group leader, registered under the existing faculties/institute/centres. Its performance shall be assessed annually by referring to the established RG instrument. A group of researchers can apply to establish a new RG after conducting a self-assessment and achieving the minimum requirements based on the Guidelines of RG Establishment. The RG shall be evaluated with a star rating based on its performance, where five (5) stars is the maximum.

4.3.4 Sharing of R&I Facilities and Infrastructure

The sharing of R&I facilities and infrastructure is strongly encouraged for maximum utilisation. Members of RGs/CoEs shall establish research laboratories that can cater to the needs of multidisciplinary research and relevant industries. Some advanced machines or equipment incur costs based on a minimum rental/services rate.

4.3.5 Strategic Partnership

UTeM's strategic partnership shall encompass collaborative efforts among UTeM researchers, other universities, industries and societies. Strategic partners will provide strong collaborative networks and financial support, such as IRMG, matching grants, KTP, PPRN, KKP, MyLab, and CREST. Collaboration and partnerships shall be governed by a legal framework and documentation. Any IPR developed from the synergy must be in accordance with the Intellectual Property & Commercialisation Guidelines.

4.4 ACHIEVEMENT AND RECOGNITION

4.4.1 Outputs

The following research outputs shall be recognised as indicators of research excellence:

- a) Successful supervision of research students who contribute to human capital development.
- b) Articles in any recognised citation-indexed journal, technical, and non-technical publication.
- c) Monographs, research books, and chapters in books by established publishers.
- d) Successful registrations of IPR.
- e) Product awards in national and international competitions.
- f) Successful commercialisation of research products.
- g) Accreditation awards for research facilities.
- h) Securing research grants.
- i) Joint research collaborations with academia/industry/society via MoU and MoA or any other legal documents which may be agreed between the relevant parties.

4.4.2 Recognition

The following forms of recognition shall be identified as scholarly achievements:

- a) Appointment as editor of an editorial board of journals or proceedings.
- b) Appointment as a chair, fellow, or committee member of national/international academic/professional bodies.

c)   Appointment as a board member/consultant in industry/society.

d)   National/international recognised awards.

e)   Appointment as an invited or keynote speaker.

4.4.3 IPR

Researchers shall register the research outputs as IPR and pursue commercialisation of the research products/prototypes. Please refer to the Intellectual Property & Commercialisation Guidelines and any other relevant documents approved by UTeM's authorities from time to time.

4.5 RESEARCH ETHICS

An outstanding mark in research is the commitment of researchers to ethical standards in research and generation of knowledge. All research is subject to ethical considerations concerning objectives, methods, data use and ownership, funding agencies, publication and IPR.

A researcher is responsible for his/her actions in research as well as his/her responses to the actions of other researchers. This applies to every aspect of research, including applying for grants, experimenting with design, and generating and analysing data, along with publishing results and any aspect related to IPR.

UTeM Research Ethics Committee reviews proposed studies with human or animal participants to ensure that they conform to internationally and locally accepted ethical guidelines, monitors studies once they have begun and, where relevant, participates in follow-up action and surveillance after the conclusion of the research. Committees have the authority to approve, reject or stop studies, or to demand modifications to research protocols. They may also perform other functions, such as setting policies or offering opinions on ongoing ethical issues in research.

UTeM has formed a University Research Ethics Committee. This committee is appointed by TNCPI and comprises the following:

a) Director of the CRIM;

b) Director, Office of Occupational Safety and Environmental Sustainability (KPKA)

c) A Medical Doctor;

d) Director of The Occupational Safety and Health;

e) A Counsellor;

f) A Legal Advisor;

g) Dean, Centre for Graduate Studies; and

h) Director of Islamic Centre;

Please refer to **Appendix 6** herein for the Terms of Reference of the Research Ethics Committee.

4.5.1 Code of Ethics

Some examples of the content of the Code of Ethics in research are:

- Accountability
- Integrity
- Honesty
- Ethics involving Human, Animals Subjects and Data Surveys
- Ethics in Publications
- Filing of IPR
- Confidentiality
- Ethics in Research
- Ethics of Health and Safety

4.5.2 Responsibilities

(i)   Accountability

Researchers are accountable to UTeM, staff, students, society and grant providers. Researchers shall declare and manage any financial or professional conflict of interest. Areas of conflict of interest include:

a) Researchers with an existing or potential financial interest in the outcome of the research.

b) Researchers being likely to gain a public or private practice benefit that is significantly dependent on the research outcome.

c) Researchers gaining professionally or personally should any research outcome differ greatly to the expected results of a specific research undertaking.

d) Researchers being responsible for avoiding any plagiarism activity related to research proposals in research grant applications and research publications.

(ii)   Integrity

Researchers shall uphold research integrity at all times. Researchers shall acknowledge the direct and indirect contributions of colleagues, research collaborators, grant providers and others in their work and publications at all times. Research integrity includes maintaining the recognised standards of good scholarship in rigour, care and accountability. All researchers should practise the following actions:

a)   Emphasise high quality research.
b)   Undertake appropriate research supervision.
c)   Maintain accurate and detailed research activity records and results.
d)   Be ethical about the objectives of one's research.
e)   Cooperate with one's fellow researchers and others.
f)   Publish, develop and commercialise their respective research findings.

(iii)   Honesty

Researchers have an obligation to achieve and maintain the highest standards of intellectual honesty when conducting research. Researchers shall foster an environment which promotes intellectual accountability and honesty in ensuring that research they undertake is consistent with the respective research guidelines and adheres to the defined original proposal, particularly concerning the financial aspects.

(iv)   Openness

Apart from protecting research interests and rights, researchers should share their research output and related knowledge with other researchers and the public. However, researchers should be cautious about discussing their work in public forums, especially content which has not been peer-reviewed or published. Researchers are guaranteed certain freedoms and should accept the corresponding responsibilities.

(v)   Knowledge Enhancement

Researchers should always be motivated to undertake relevant training to ensure knowledge improvement and engagement in producing high quality research. GRA and project members should be given opportunities to attend relevant training/courses as part of their

career development. A dynamic research culture should be fostered where all researchers develop their knowledge and skills as well as exchange ideas freely within a climate of mutual trust and cooperation.

(vi)   Leadership and Supervision

Principal and senior researchers are responsible for the supervision of the whole research process, including project designs, funding applications, experimental design or research protocols, data recording, data analysis and publication and dissemination of results. Senior researchers are also responsible for the appointment of qualified GRAs as well as the supervision of research.

(vii)   Referring to the Policy and Guidelines

Researchers are bound by the respective research and innovation policies, guidelines and legal requirements which regulate their work, particularly health and safety requirements, environmental standards, and privacy and protection of research data. Specifically, researchers are bound to uphold key general principles for the care, use and humane treatment of animals in scientific research and to obtain the prior consent of human subjects.

(viii)   Responsibility and Ownership of Research Assets

All research assets belong to the UTeM. Researchers are responsible for all assets procured under research funding, and for adhering to the research agreement of the grants, or otherwise stated. Please refer to GPPP for more details.

(ix)   Curriculum Vitae

A biographical sketch incorporated into a grant proposal or a curriculum vitae used in an application for a fellowship or any other position should follow UTeM standards of accuracy. Inflated or otherwise inaccurate listings of educational background or academic status with intent to deceive, including but not limited to disingenuous claims to degrees, employment history and professional accomplishments are just as reprehensible as irresponsible entries in a list of publications. In some cases, such activity could be considered falsification and categorised as misconduct.

4.5.3 Ethics in Research Involving Human / Animal Subjects / the Environment

Research that involves human/animal subjects must align with the content of the National and International Ethical Guidelines for Research Involving Human/Animal Subjects. The guidelines are as follows:

a) Researchers conducting research or gathering sources of research related to materials such as the use of human beings or animals in the collection of data/ information must obtain written approval from the University Research Ethics Committee;

b) The University Research Ethics Committee shall first examine the merit of applications from researchers conducting research that involves the collection of data from sources such as human beings or animals;

c) Once satisfied with the justification for the application, the University Research Ethics Committee shall issue a formal letter of approval in writing to the National Ethical Committee;

d) Once approved, a copy of the approval letter must be submitted to any participants/respondents involved in the research.

4.5.4 Ethics in Data Collection

a) Data surveys shall not violate established professional ethics pertaining to the personal health, safety, rights and privacy of human beings; and the health and safety of, and infliction of injury or pain to, animals and the environment.

b) Research projects or surveys involving humans (including questionnaires and interviews) must retain a balance between research requirements and human dignity.

c) All research must follow the approved framework, and questionnaires are subject to review and approval by the University Research Ethic Committee. The purpose is to determine whether any risks posed to subjects are acceptable, and whether the information describing any risks and benefits of the participation of the subjects is conveyed to the subjects in an accurate and intelligible manner.

d) To monitor research activities and output that is ethically approved.

e) To encourage all researchers to follow the Code of Ethics (refer to 4.5.1).

4.5.5 UTeM Obligation towards IPR

a) To provide protection during the creation, development, generation and commercialisation of any IPR. This is important to prevent any breach of ethics or guidelines established by UTeM in relation to the moral rights of the inventors, creators or originators of IP, data storage and confidentiality; the attribution of credit, ethical and safe conduct of research, particularly with humans and other animals and environment; and plagiarism or falsification of data.

b) To recognise and certify the rights and responsibilities of any inventors, creators or originators of IP. It shall take any necessary measures and reasonable steps to ensure that the inventor, creator or originator is acknowledged as the authorised author or inventor of the IP.

c) To take any measures and steps deemed necessary to ensure that any modifications or alterations of a work do not cause any harm which can affect the reputation or honour of the inventor, creator or originator. Please refer to the Intellectual Property & Commercialisation Guidelines.

4.5.6 Ethics in Publication

a) Any publication must give appropriate credit to all authors for their roles in the research. If more than one person contributes significantly, the decision of which names are to be listed as co-authors should reflect the relative contributions of various participants in the research. The use of alternative forms of acknowledgment within the paper for contributions that do not merit co-authorship, for example technical assistance, is permissible.

b) Appropriate citation must be made. The work of others should be cited or credited, whether it is published, unpublished, in a written form, an oral presentation or material on a website. Each journal or publisher may specify the particular form of appropriate citation. One does not need to provide citations in the case of well-established concepts found in common textbooks or in the case of phrases which describe a commonly used methodology. Specific rules have been developed for citing electronic information.

c) An author should not divide a research paper which is a self-contained integral whole into a number of smaller papers merely for the sake of expanding the number of items in the author's bibliography.

d) In citing one's own unpublished work, an author must be careful not to imply an unwarranted status of the manuscript.

    i. A paper should not be listed as submitted in anticipation of expected submission.

    ii. A paper should not be listed as accepted for publication or in press unless the author has received proof or page proof or received a letter from an editor or publisher stating that publication has been approved, subject perhaps only to copy-editing.

e) Members of a research group who contribute to work that is later incorporated into a proposal or protocol are entitled to be consulted and informed as to their role should the proposal be funded or the protocol approved. A charge of plagiarism in the proposal or protocol on the grounds that such members are not later included as part of the team that conducts the approved or funded research, however, cannot usually be sustained. Such researchers who are excluded from subsequent research are entitled, however, to be considered for co-authorship in publications if their contributions merit this.

4.5.7 Misconduct of Research

Research misconduct is defined as fabrication, falsification, or plagiarism, including misrepresentation of credentials in proposing, performing, or reviewing research, or in reporting research results. It does not include genuine errors or differences of opinion. Misconduct as defined above is viewed as a serious professional infringement that is subject to sanctions imposed both by UTeM and by external agencies.

It is important that risks in conducting research are clearly articulated and weighed against the potential value of the research, so that those involved (researchers and subjects) proceed with informed consent. Regardless of the nature of their work, researchers are obliged to anticipate and address the wider direct and indirect consequences of their work. Researchers are urged to avoid the following forms of misconduct:

a) Data fabrication which is dishonest in reporting results, such as the proclamation of non-existent study results.

b) Data falsification which includes the altering of existing records.

c) Plagiarism which includes the direct copying of textual and graphical material or uses data or ideas of another individual without his/her authorisation.

d) Failure to spend research funds in a way consistent with the goals stated in the relevant contract documents and/or failure to maintain clear and proper records of expenditure.

e) Failure to acknowledge the source of biological materials used in a laboratory.

f) Failure to protect the rights of informants regarding their privacy or to protect the anonymity of research subjects and the confidentiality of information resources.

g) Violation of property, such as stealing or destroying property of others, including research papers, supplies, equipment or products of research.

h) Dishonesty in publication, such as misleading ascription of authorship including listing authors without their permission, attributing work to others who have not in fact contributed to the research, and the lack of appropriate acknowledgment of work produced by others involved in the research.

i) Any misconduct arising from research or publication shall be managed by the University Research Ethical Committee according to the prescribed rules and regulations.

4.5.8 Health and Safety

a) UTeM Office of Occupational Safety and Environmental Sustainability is responsible for advising UTeM on health and safety policies, ensuring all faculties/departments are in compliance with policies, statutes, and regulations; monitoring the effectiveness of safety programs; and providing central health and safety services to all areas of UTeM in accordance with the Occupational Safety and Health Act 1994, the Factories and Machinery Act 1967 (Act 139), the Environmental Quality Act 1974 (Act 127) and other related laws pertaining to health and safety in Malaysia.

b) UTeM shall make all reasonable efforts to:
   i. Protect the health and safety of UTeM staff, students and research associates;
   ii. Provide safe workplaces for staff and students;
   iii. Provide information to staff and students about health and safety hazards;
   iv. Identify and correct health and safety hazards and encourage staff and students to report any hazards;
   v. Provide information and protection for those on campus and in the surrounding community regarding environmental hazards arising from operations at UTeM.

5.0 MISCELLANEOUS

5.1 Any breach of the terms of this Policy or GPPP shall be liable for action under any one or any appropriate combination of the following:

a) Statutory Bodies (Discipline and Surcharge) 2000;

b) UTeM (Discipline of Students) Rules 2009; or

c) Any laws, rules, regulations, circulars, orders and guidelines in force from time to time.

5.2 This Policy is subject to any laws, rules, regulations, circulars, orders and guidelines in force from time to time.

5.3 This Policy is subject to amendment from time to time by UTeM.

5.4 This Policy shall be read together with GPPP.

REFERENCES

This research and innovation policy has been proposed with references to the following organizations:

a) Intellectual Property Commercialization Policy for Research and Development Project funded by The Government of Malaysia (MOSTI)

b) Institute for Competitiveness & Prosperity, Ontario, Canada

c) Occupational, Safety and Health Act

d) Stanford University, USA

e) University Malaysia Sarawak

f) University Putra Malaysia

g) University Sains Malaysia

h) University of Queensland, Australia

i) University of Technology Sydney, Australia

j) Code of Ethics

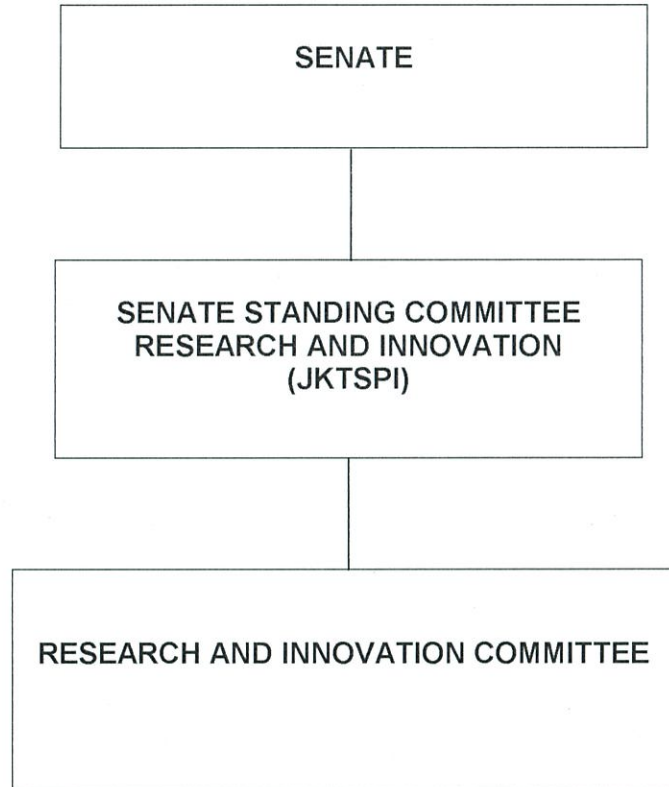k) Research Policy RMC, UMP (www.ump.edu.my)

l) University Malaya

APPENDIX

APPENDIX 1

RESEARCH AND INNOVATION GOVERNANCE STRUCTURE

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│                 SENATE                   │
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┌─────────────────────────────────────────┐
│       SENATE STANDING COMMITTEE          │
│        RESEARCH AND INNOVATION           │
│                (JKTSPI)                   │
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┌─────────────────────────────────────────┐
│                                          │
│     RESEARCH AND INNOVATION COMMITTEE    │
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APPENDIX 2

TERMS OF REFERENCE OF THE JKTSPI COMMITTEE

1. To report the latest development that are related with research project and consultancy to the Senate.

2. To identify all the stages of research activities, monitor and evaluate the compliance towards research policy and guidelines.

3. To plan, develop and initiate research program according to the University requirement.

4. To arrange plan and preparation in obtaining research grant from local and international

5. To plan activities which are related to research and consultancy.

6. To evaluate the effectiveness of research activity from time to time.

7. To legislate and implement policy and guidelines in research activities that are proposed by the University Research Committee.

8. To make recommendation related to research and innovation when being instructed by the Vice Chancellor.

9. To conduct tasks that are instructed by the Senate related to research and innovation from time to time.

10. To monitor all the research activities that are being executed by industrial partner co-researcher.

11. To identify types of research collaboration with industry that can bring benefits and income generation potential to UTeM in achieving University main mission.

12. To study and recommend policies that are related to scholarly publication with implementation and increase the scholarly publication activities.

13. To discuss and recommend conference/seminar proposal that is organized by Faculty/Centre/Institute.

14. To handle certain item that may be referred by the Senate and implement any power and function as given and presented by the Senate or being allocated under any Statute, Method or University Regulation and conduct all items that are beneficial or need with the function implementation.

APPENDIX 3

TERMS OF REFERENCE OF THE RESEARCH & INNOVATION COMMITTEE

1. To plan the strategies and develop action plan in implementing research strategies, innovation and commercialisation and present at JKTSPI meeting.

2. To monitor the performance and effectiveness of the implemented strategies in research, innovation and commercialisation.

3. To make recommendation and approval on research application by the academic staffs.

4. To make recommendation and approval the progress/performance and final report of research by academic staffs.

5. To plan and monitor research and innovation activities.

6. To report research and innovation activities to the JKTSPI Committee.

7. To identify potential research that can generate university income and commercialisation.

APPENDIX 4

TERMS OF REFERENCE OF THE INTELLECTUAL PROPERTY TECHNICAL EVALUATION COMMITTEE

1. To provide advice and make recommendation to the Intellectual Property and Commercialisation Committee on the types of Intellectual property protection for every IP application.

2. To examine and review all aspects related with the IP including risk assessment and exploitation of IPR.

3. To prepare the technical input for every IP application, management, patent filing and trademark breach, releasing trademark and copyright; investigating and assisting in IP settlement and conflict internally and externally.

APPENDIX 5

TERMS OF REFERENCE OF THE INTELLECTUAL PROPERTY TECHNICAL AND COMMERCIALISATION COMMITTEE

1. To certify and approve every IP application that has gone through the Intellectual Property Technical Evaluation Committee.

2. To advise the University in all aspects related to intellectual property including risk assessment, commercialisation activities and intellectual property exploitation.

3. To appoint any consultant if required in making technical evaluation, risk assessment, market survey, business plan and intellectual property exploitation.

4. To assist the University in settling conflict or raised matters related to Intellectual Property.

5. To make recommendation and support any commercialisation application that will be brought to the JKTSPI Meeting.

APPENDIX 6

TERMS OF REFERENCE OF THE RESEARCH ETHICS COMMITTEE

1. To propose an action according to the types of ethical breach by the researchers.

2. To provide a written approval with the recommendation of JKTSPI Committee to the researchers who are going to conduct research that involved material or living research source such as human organ or animal for data collection.

3. To provide review on all research protocol that involved human as a subject (including technical research involving patients) or other subject that contribute to general knowledge related to bio-medical and health sciences.

4. To ensure the protection on research subject and researcher always follow the guidelines for research that involved human subject.

5. To disseminate information and procedures related to ethical guidelines and approval involving human subject to the researchers in Faculties.