THE FEDERAL UNIVERSITY OF TECHNOLOGY, AKURE, NIGERIA

RESEARCH POLICY

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1. INTRODUCTION

1.1 Preamble

Research can be considered as a systematic activity carried out using well defined methodologies for the purpose of creating new knowledge. Any activity which qualifies as research should have these attributes: it should be systematic, it should contribute to new

knowledge, and its outcomes should be verifiable. Research is classically categorised as basic research and applied research. Basic research is a systematic investigation of a theoretical of experimental nature, undertaken principally to acquire new knowledge about phenomenon, process or matter without an imminent application in view. Generally, the outcomes of basic research are published or disseminated in scholarly outlets with minimal commercial interests at heart. On the other hand, applied research is the type of research undertaken to discover, interpret, and develop methods and systems which have potential for practical utilization for the advancement of society. Both forms of research are essentially built on enquiry propelled by hypotheses or intellectual positions, which can be verified following rigorous procedures set by experts in the given discipline. A researcher then is someone who creates knowledge following the aforementioned procedures and also disseminates such generated knowledge for the advancement of humanity and society.

The Federal University of Technology, Akure (FUTA) acknowledges that research and teaching inspired by state-of-the-art research breakthroughs, and community development, form the fulcrum of the activities of its academic staff. It gives pre-eminence to activities geared towards communicating the outcomes of research of the highest standard. It also recognises that research should serve to develop intellectualism and scholarship, innovation and service, create entrepreneurial opportunities and promote community and national development.

The guidelines outlined in this research policy are meant to assist the university research community in the conception, development and execution of research in their respective fields. The essence is to ensure responsible research that conforms with international best practices, promotes the assimilation of values which contribute to the making of world class researchers, and enhance the University's prestige as a centre of excellence in research.

1.2 About FUTA

The Federal University of Technology Akure fondly called 'FUTA' was founded by the Federal Government of Nigeria in 1981 with the intention to create specialized universities that will produce graduates with theoretical and practical knowledge in technology for national development.

Vision

"To be a world class University of Technology and a centre of excellence in training, research and service delivery"

Mission

"To promote technological advancement by providing conducive environment for research, teaching and learning that engenders development of products that are technologically oriented, self-reliant and relevant to the society"

Core Values

The University core values are represented with the acronym "ICARE"

I - Integrity
C - Creativity
A - Accountability
R - Rationality
E - Excellence

The University runs a School System instead of the regular faculty system of conventional universities. Since establishment, the University has grown significantly, testified by the increase in its academic disciplines, which now spans over forty academic departments domiciled in nine (9) different schools (School of Postgraduate Studies (SPGS) inclusive). These include:

1) School of Agriculture and Agricultural Technology (SAAT)
2) School of Engineering and Engineering Technology (SEET)
3) School of Earth and Mineral Sciences (SEMS)
4) School of Environmental Technology (SET)
5) School of Health and Health Technology (SHHT)
6) School of Management Technology (SMAT)
7) School of Computing (SOC)
8) School of Sciences (SOS)
9) School of Postgraduate Studies (SPGS)

In addition to these Schools, the University has also got some academic centres, each playing its role to ensure that the vision and mission statements of FUTA are actualized. Among these Centres are:

1) Centre for Research and Development (CERAD)
2) Centre for Space Research and Applications (CESRA)
3) West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL)
4) Centre for Renewable Energy Technology (CRET)
5) Computer Resource Centre (CRC)
6) Technology Park and Incubation Centre
7) Centre for Entrepreneurship (CENT)
8) Centre for Gender Issues in Science and Technology (CEGIST)
9) University Advancement Centre (UAC)
10) Centre for Continuing Education (CCE)
11) University Central Research Laboratory; and
12) Other service centres that conduct research in the University

Also, there is the University Library which is the knowledge repository of the University. It serves as a storehouse for the collection of materials on several knowledge areas and facilitates the provision of academic resources to support learning, curriculum, and research activities in the University.

1.3 The Research Role of FUTA

As an academic institution, FUTA is charged with the core responsibilities of teaching, research, and community service. Therefore, it is very important that the University continues to work assiduously to enhance its delivery of these core responsibilities. Over the years, there has not been a holistic policy guiding the full spectrum of research activities in the University. As an institution that pride itself in her motto (Technology for self-reliance), FUTA promotes research outputs of top-notch quality which have potential relevance to both the local and international communities.

To maintain a high level of quality research, it is imperative that the University maintains a focused approach in core research disciplines by promoting both basic, collaborative and inter-disciplinary approach to research. The University also encourage a research agenda aimed at supporting “new generation” researchers, who are skilled in developing research

methodologies, practically applying research data, and using modern technologies. The University must also promote an integrated system of knowledge and/or skills transfer which enhance partnerships with both private and public organizations, with the overall aim of contributing to national economic, industrial and technological growth.

1.4 Importance of Research

Virtually all innovations and inventions that have led to the design and development of commercialized products/services can be attributed to research. Most new commercialized products can be linked to research carried out in universities. These products have led to mechanization of manual tasks, improvement in the quality of services, and an overall improvement in the quality of life. Most of the advancements seen in developed nations is because of the creative activities of their scholars who conduct research in different areas of human endeavours. Therefore, research has a key role to play in the growth and development of a nation. Consequently, FUTA places a huge premium on research activities that are need driven, with local and global relevance.

1.5 The Need for Research Policy in FUTA

Given the current and on-going emphasis on research and development nationally and globally, the time has come for the articulation of an enduring research policy document for the University. This is driven by the following factors:

i. Absence of a comprehensive framework to guide and motivate staff and/or students, develop and enhance their skills, support and facilitate collaborative research and funding opportunities, and provision of ethical guidelines for scholarly works which hitherto have received sparse consideration in the University.
ii. Enhance the full functionality of the Centre for Research and Development (CERAD) as a central research management unit;
iii. Increase interest by the Government and its agencies including private organisations to fund research proposals;
iv. The need to sharpen the competitiveness of the Federal University of Technology, Akure in the pursuit of research funding both nationally and internationally;

1.6 Aim and Objectives

The Federal University of Technology, Akure aims to carry out research and development, and other creative ventures which are in line with international best practices, and would contribute significantly to the advancement of

knowledge, society and humanity; and also lead to the realization of sustainable development goals in technology, industrialization, environmental protection, health, economic and social development.

The specific objectives of the Research Policy are to:

1) Advance the mission of the University as a primary source and facilitator of basic and applied research;
2) Harness the expertise of the University staff for engagement in all forms of research activities which can advance knowledge, cultural and social development, preservation of the environment, and enhance economic, industrial and technological growth;
3) Develop blueprints for research in sync with its strategic plans that would be of regional, national, and international relevance and build on the strengths of the University and/or create strengths which the University has identified as a priority;
4) Sustain coordinated plans and effective management policies and practices that engender excellence, support individual and group research activities;
5) Work towards increasing external funding and support for research and development activities;
6) Protect, promote, and exploit the intellectual property developed in the University, and to encourage the commercialisation of such intellectual products;
7) Promote research-based teaching to enhance scholarship through the synergy of research, professional practice, technical skills acquisition, and teaching as a bases for learning;
8) Place a high premium on research excellence and innovation, and the dissemination of research outputs in the professional/career development, recognition and rewards systems of the University;
9) Engage a greater number of postgraduate students and post-doctoral fellows and provide them with research supervision, infrastructure, funding and support of the highest possible quality;
10) Develop and advance a structure for promotion of high-quality research that is built on the cooperation and synergies among Schools, Centres, and Academic Units; and
11) Promote local and international networks and collaborative research partnerships with other tertiary institutions, research institutes, public agencies and the private sector.

1.7 Research Coordination and Management

The research activities at The Federal University for Technology, Akure (FUTA) shall be coordinated through the office of the Director of Centre for Research and Development (CERAD). The Directorate shall provide strategic vision for the University in attaining all round research excellence, which will position the University in a vantage position to reap the benefits of its investment in research and enhance the global image of FUTA as a University of high repute in research and development. Advice on policy in research matters will be coordinated by CERAD with inputs from other units, including the following:

(a) Schools: which are required to develop and implement their research plan that is consistent with the strategic research mandate of the University. They are to establish research committees to facilitate the attainment of its set goals and to guide the research activities of their staff and postgraduate students.

(b) SPGS

(c) CRC

(d) Directorate of Academic Planning

(e) Wascal

(f) International Centre

(g) CESRA

(h) Other Centres and Units that involve in research activities

1.7.1 Supervision of Research Students/trainees

(a) The Deans and Heads of Departments shall ensure that research supervision at all levels (including Undergraduate, Graduate and postdoctoral levels) is properly assigned to qualified supervisor(s), and shall ensure that a reasonable ratio of research students/trainees to supervisors is maintained to assure effective intellectual interaction and efficient guidance.

(b) Supervisors or Heads of Departments shall make available to each research student/trainee, relevant policy documents, and applicable government and professional practice guidelines for the conduct of research, including those covering intellectual property, field specific and general ethics in research, as well as requirements for confidentiality.

(c) Supervisors shall be expected to provide guidance in matters relating to good

research practice. These include prior discussion with the student, at the outset, and referring any problems/queries to the Dean of School/Head of Departments (where applicable) for consideration.

(d) Supervisors are under obligation to ensure the validity and integrity of research data generated by a student under his/her supervision.

(e) Supervisors shall disclose to the students, before the commencement of the research any special conditions related to matters such as constraints on publications, limitations on future use of data, and nature of intellectual property rights that may influence a student's decision to participate in the research.

1.7.2 Research Funding

The University shall be obligated to ensure that research and other knowledge based works generated in the Institution by its researchers are funded in a consistent and sustainable manner.

Sources of Research Funding

a) Appropriations to the University - in support of research by the Government.
b) Research Grants and Contracts: Agreements for such grants and contracts may be entered into with an agency of Government, or with a private industry or agency.
c) Developmental Grants: These may be derived from foundations, from business and industry, or from individuals.
d) University/Industry Cooperative Research Programs
e) Foundations: Many public and private foundations and not-for-profit corporations which provide support for research and scholarly projects.
f) Scholarship and Fellowship Funds
g) Internally Generated Revenue (IGR)

2. RESEARCH STRATEGY

2.1 Guiding Principle and Goals

The Federal University of Technology, Akure (FUTA) is committed to maintaining high standard of integrity in conducting research and promoting research culture. To ensure that

these standards are always upheld, the University has developed its research policy to align with that of the National Universities Commission (NUC), and to conform with international best practices.

The University emphasizes that its research units must carry out and disseminate the results of basic and applied research. The University's commitments shall be subjected to fundamental principles respecting the freedom of thoughts, the diversity of scholars' endeavour and creativity, and to the national goals of innovation, economics, physical, social and technological development.

FUTA commits itself to the:

(a) creation of an enabling environment conducive for research,
(b) provision of specific budgetary allocation for funding of research activities,
(c) systematic implementation of programmes aimed at attracting external funding and sponsorship of research, and
(d) provision of institutional support (by way of payment of page charge) for the dissemination of research outcomes particularly in high impact journals.

The University reserve the right to set road maps and directions for research and research funding at all instances. Focussed attention shall be placed on quality research that will suitably lead to generation of the best quality products, designs and processes that enhance the international visibility and reputation of the University. The research strategy of FUTA shall include the following:

1. Encourage staff to undertake research leading to the generation of outputs which are patentable.
2. Provide support for sustenance and promotion of research activities of young, mid-career, and established researchers.
3. Identify and encourage viable research collaborations with local and global institutions.
4. Request for support for research projects adjudged to be technically and economically viable based on a fair, competitive and merit inspired peer review process.
5. Recognition and reward for true excellence in research and development as a way of encouraging and motivating this all-important university culture. For example,

(i) Grants: a six to ten percent of a secured grant shall accrue to the grantee(s) as a way of motivation for more work.

(ii) Publications: Cash or other rewards shall accrue to author(s) that publish articles in well indexed journal (e.g. Scopus, Clarivate Analytics)

(iii) Citations: Cash or other rewards shall accrue to author(s) whose citations cross the bench marks of 1000, 2000 and above in Google Scholar.

6. Promotion of multi-disciplinary research within and across Departments, Schools, Centres, and Institutes.

2.2 Research Collaboration

The Federal University of Technology, Akure supports and encourages internal and external research collaboration. External research collaboration which will be supported, should be in compliance with relevant guidelines of the FUTA. Transnational collaboration in accordance to MOUs of FUTA with other universities is encouraged and supported.

Researchers have an obligation to ensure that the roles and responsibilities expected from each collaborator is well stated and understood by all parties prior to the researcher engagement. This should also cover how authorship will be assigned. Where disagreements arise among co-researchers, such issues should be resolved in an amicable and respectful manner. Where such disputes cannot be satisfactorily resolved by the parties involved, it is expected that they should seek the counsel of appropriate senior colleagues or that of the authorities. The university has the obligation to investigate disputes arising among research collaborators, and help proffer resolution to such conflict.

2.3 Research Grants and Funds

2.3.1 Basic Principles

The University acknowledges the right of staff and students to engage in research with the proviso that such research activity does not create a conflict of interest or undermine universally accepted ethics governing research conducted by staff or students of the University. Nevertheless, the university can exercise the right identify priority areas of research focus to which resources may be targeted in line with the desire to create national and international centres of excellence. These prioritized research areas depending on prevailing national and global imperatives, may change from time to time.

In line with the strategies for strengthening research in the University:

- Funding proposals should prioritize capacity building and mentoring. Priority funding may be granted to research initiatives with the capacity to impact on the training of junior researchers. Proposals which incorporate to post-graduate research are therefore welcomed.
- Research projects which are marketable shall be encouraged. Proposals which do not clearly demonstrate the ability to improve the University's local and international visibility and prestige through publications, community development, product development, and patents shall not be considered.
- Research proposals shall clearly state target journals or outlets for the dissemination of data generated from the research. Researchers, who are unable to publish the result of funded project in reputable outlets, may not be able to access grants in the future except a convincing reason is provided as to why such funded research could not published as indicated in the application.
- Grants to facilitate the purchase of research equipment that will outlive the funded project shall be particularly encouraged.
- Research proposals shall incorporate sustainability statements. Funding of pre-existing (externally funded) and successful research shall be particularly encouraged where such support shall lead to advancement of existing project.
- Request for counterpart funding of externally funded research shall be particularly encouraged. Such applications must be accompanied with documentations of the externally funded proposal including budget and expenditure plans, among others.

2.3.2 Internally Funded Research Grants

The policy to regulate the award, management and administration of internally funded Research Grants shall also derive from the University Research Policy.

2.3.3 Externally Funded Research Grants

The University shall strongly encourage all academic staff / researchers to pursue external funding to support their research and attract additional financial resources to the University. The Centre for Research and Development (CERAD) shall assist in the peer review of all

externally funded research proposals. The Centre will also assist in identifying funding opportunities for potential researchers through online databases and individual meetings and publish newsletters or web-based updates on available funding opportunities from time to time. Therefore, all researchers are encouraged to consult the Centre in the early stages of the preparation of their proposals to be informed on the specific guidelines of the prospective granting agencies.

2.3.4 Research Facilities Grant

The University shall promote the pursuit of grants for the purchase of multidisciplinary or specialized research facilities that may be put for general access and use by researchers in the University Central Research Laboratory, Centre or School.

2.3.5 Sponsored Research

1. Research funds that the University will seek or pursue shall be those that have the ability to improve its capacity to accomplish its primary mission.
2. Sponsored research must be in accordance with the spirit of freedom of inquiry and the right to publication must be fully guaranteed for the researcher and the institution, except in confidential or proprietary work carried out under the direction of the relevant Institution organ / unit. FUTA shall recognize the legitimate proprietary concerns of industrial sponsors, and thus appropriate publications from such research can be deferred for a limited period in order to protect patent or other rights as agreed between the university and the external sponsors. Similarly, on those occasions where the University has accepted a sponsor's proprietary information as necessary background data for a research project, arrangements shall be made for the sponsor to review proposed publications in order to identify any inadvertent disclosure of such data.

2.3.6 Grants for Conference / Training Support

The University is to make funds available for the development of staff members in form of training and conference attendance. This should be incorporated into the University's annual budget in form of staff (academic and non-academic) support fund to aid attendance of conferences, short courses, and training workshops within and outside the country as is applicable.

There shall be provision in the budgetary plan of each Department for training/ conference/ seminar/ workshop attendance, which should be rationed among staff members under the

guidance of the Head of Department. The Vice Chancellor shall approve staff request for the support on the recommendation of the Head of Department through the Dean in accordance with the budgetary provisions.

The University administration shall also consider and approve staff request for special support to attend conference/training/ seminar/ short courses/ workshops within and outside the country on the account of necessity and relevance of such conference/training/ seminar/ short courses/ workshops to the University growth and development. This approval may be full/partial support covering certain percent of the requested cost.

2.4 Scholarly Communication

Scholarly communication in the context of this section, refers to the processing and mechanisms for dissemination of research discoveries to the knowledge community and society.

2.4.1 Publications

For the purpose of this research policy, FUTA recognizes research as an original investigation undertaken in order to gain new knowledge and understanding. It typically involves systematic enquiry of an experimental or critical nature driven by hypotheses or intellectual positions capable of rigorous assessment. It is an independent, creative, cumulative and often long-term activity conducted by people with specialist knowledge about the theories, methods and information concerning their field of enquiry. Its findings must be open to scrutiny and formal evaluation by others in the field, and this may be achieved through publication or public presentation. In some fields, the results of the investigation may be embodied in the form of an artistic work, design or performance. Consequent upon this, research may be said to have been carried out if the result is published in a form that is available to the wider world.

The University therefore places a premium on the publication of results of research carried out by staff and students in the most visible media available. Staff and students of the university shall thus be encouraged to publish the results of their research in such media as will enhance the international visibility and acclaim of the university and her researchers. In line with the importance placed by the university in the publication of research results, the criteria for consideration for university level awards and or recommendation for any national

and/or international awards shall be based on the publication profiles (quality and quantity, and other author based metrics such as H-Index) of such academic staff.

The University also acknowledges research and research-inspired teaching as primary tasks of its academic staff. It places value on promotion, publishing, and disseminating research of the highest international quality. University research should serve to develop intellectual independence and promote community learning.

2.4.2 Special Notes

Research carried out at the university should strive to serve a public rather than a private purpose, and research results should be disseminated widely in a very timely way. The University encourages its researchers to publish the results of their research efforts in their field in the most widely accessible and well indexed media, even when the results of such work address local and peculiar issues in our environment. Where specialized local interest needs to be served, dissemination of research results through local conferences may be used to supplement the need for internationally visible channels of publication.

While the university promotes publication in highly reputable and visible local journals, it expects to remain internationally relevant by publishing her best researches in high impact journals. However, the University shall work tirelessly to promote its institutional journals, to make them highly visible and international by encouraging scholarly publishing best practices and pursue the abstracting and indexing of all its journals by reputable scientific databases such as Scopus and Clarivate Analytics (Web of Science).

All works published by staff and students of the university should clearly show the affiliation of the researchers to the university. It is also recommended that works published by staff and students of the university shall bear FUTA domain specific email addresses relating the investigator to the university. These make for greater internet visibility of the university.

Publications arising from university grant funded research must have a member of staff of the University as the principal investigator. Only such publications acknowledging university support may be accepted as evidence of publication of the result of grant funded research.

Grantees who do not publish the result of their research may be denied further research support

The contribution of any funding body must be acknowledged in any publication arising from such funded research. It is mandatory for the University-based research funding to be acknowledged in publications arising from such research.

3. RESEARCH ETHICS

3.1 Introduction

The Federal University of Technology, Akure is committed to fostering a research culture that is built on intellectual honesty and integrity, and geared towards pursuance and nurturing of research that addresses the needs of the local environment and has global relevance. In this regard, the University is committed to empowering its staff members to be well equipped in contributing to the mission and vision of the University and meet its mandate to be among the top universities in the world with excellence in teaching, research, and community development.

The purpose of this section on research ethics is to shed light on the fundamental principles which will serve as the foundations for research and development activities conducted in FUTA. Also, these principles outlined in this section of the research policy, will serve as a guide and moderating document for all Committees that deal with research matters in the University. Thus, it is expected that all those involved in research activities under the umbrella of the University irrespective of their status/level (that is, either as employees, students or visiting researchers), source of funding, discipline, or site where the research activities are conducted, are bound to honour these principles. To this end, The University shall take relevant measures to ensure that the principles which form the foundation of the research ethics of University are in conformity with global scientific and ethical best practices.

3.2 Aim and Objectives of the University Research Ethics

The aim of the university research ethics policy is to provide a broad framework that will guide and direct ethical conduct in research and development related activities at FUTA.

The specific objectives of the Research Ethics Policy of FUTA are to:

a) Sustain and monitor co-operative relations among the various Schools, Centres, and other Academic Units with respect to ethical issues regarding research activities conducted by staff members, students, research affiliates and research associates;
b) Identify the strengths, vulnerabilities, challenges and opportunities that affect ethical research concerns and encourage the successful implementation of both general and specific research practices based on a clear code of conduct and practice;
c) Sensitize and explain ethical issues concerning research activities to staff and students with a view to enhancing efforts to become an institution of national and international repute; and

d) Ensure that scholarly publishing of research findings is carried out following good ethical norms and practices through publications in peer-reviewed journals, conference presentations and proceedings, books, and other scholarly recognized outlets.

3.3 Fundamental Scientific Research Principles

The following principles and values apply to all forms of research and must be considered as forming the foundation of academic research activities at the Federal University of Technology, Akure.

3.3.1 Integrity

The values of ' truth ' and ' honesty ' are central to all aspects of scientific research and artistic and academic endeavours. Researchers must always uphold the highest standards of honesty and integrity, and conduct research according to internationally accepted ethical standards and values.

Research dishonesty may take many forms, such as:

(i) plagiarism
(ii) fabrication and falsification of results
(iii) misappropriation of research funds
(iv) maltreatment of human and animal subjects
(v) lack of transparency in research commitments and obligations
(vi) conflict of interest
(vii) improper identification of plants and animals
(viii) divulgence of classified research information
(ix) refusal to obtain ethical approval for the use of human and animal subjects
(x) refusal to obtain informed consent for use of human subjects
(xi) malpractices related to authorship
(xii) infringement on intellectual property

Research dishonesty of any form as highlighted above, will be regarded as an offence by the University.

All researchers shall ensure that the research conducted by him or her research associates, staff members, research affiliates or university students conforms to ethical values, in accordance with the ethical principles advanced in this Policy.

3.3.2 Responsibility

The ethics of responsibility means researchers have to be prepared to take responsibility in their search for the truth and be held accountable for all aspects and consequences of their research activities. Scholars are accountable to society, its practitioners, the University and affiliated associations and other relevant professional bodies, regulatory boards and government institutions The University expects all researchers to ensure that they are familiar with, and comply with applicable norms, policies and legislation.

3.3.3 Respect

The concept of 'respect' should permeate all facets of research. Researchers must act in compliance with civilized norms and ethically acceptable practices and must have respect for themselves, their colleagues, the scientific community, their subjects of animal and human study, the environment and the general public.

3.3.4 Beneficence and the Common Good

Beneficence is a moral obligation to do good. Researchers have a duty not to inflict harm or cause chaos, and then to make sure that their work seeks to do good for humanity and society as a whole.

3.3.5 Scientific validity and Peer review

Sound methodology and scientific validity are the starting points of ethical research. Engaging in research which has fundamental flaws in methodology and design is a waste of human, monetary and other resources and is thus unethical. Appropriate feasibility evaluation, peer review and/or peer input should thus precede the initiation of all research projects. Scientific review may be separate from, or integrated with the ethical approval process where appropriate.

3.3.6 Justice

The principle of justice ensures the fair distribution of both burdens and benefits of research and is of particular relevance when research involves human participants.

3.3.7 Academic Freedom

Academic Freedom in the context of this ethical policy, refers to the capacity of an academic staff to engage freely and openly in scholarship, research and innovation activities. It includes the right to question and challenge traditional norms, and the freedom to define research questions, to pursue answers to those questions by way of unrestricted but proper

investigative techniques and to disseminate the knowledge gained to students, academic colleagues and the society in general. Academic freedom does not require neutrality on the part of the individual; rather, the expectation for academic freedom is to make intellectual scholarship, discourse and critique possible without reprisal or repression by the institution, the government or any other person or entity.

However, academic freedom is not absolute. Those involved in scholarly activities within a University are bound by the degree of autonomy available to the institution, and are subject to legal parameters, professional requirements and peer assessment. Academic freedom, as appropriate to an individual's University appointment, implies protection of the individual by the University from pressure intended to censure or restrict such an individual from otherwise pursuing scholarly and research interests and communicating the results thereof to students, academic colleagues and the world at large. In this context, individuals are entitled to freedom in research and inquiry and in the publication or dissemination of the results, subject to the adequate performance of their other academic duties.

Academic freedom also has corresponding obligations which include a high degree of respect for evidence; integrity in the research in accordance with the conventions of the discipline; impartial reasoning; and honesty in reporting both the underlying assumptions and the results of the inquiry. Within its means, FUTA seeks to provide the opportunities, infrastructure, facilities and academic freedom necessary to support and maintain high level of scholarship. Furthermore, to ensure that research and scholarship are conducted ethically and in ways that fully respect human rights as defined in law, researchers are expected to use their right for academic freedom responsibly, with respect for the rights of others and in a manner that is appropriate to, and consistent with the individual's University appointment.

FUTA staff and other researchers as appointed by FUTA are members of an educational institution whose special position in the world imposes unique obligations, and thus at all times must be cognizant of their position as institutional representatives. When such persons exercise their rights for academic freedom or through individual rights as independent citizens, they should be free from institutional censorship or discipline, but must nonetheless recognize that the public may judge not only their personal credibility but also their profession and their institution by statements, publications or public pronouncements. Hence, the University staff and researchers shall be accurate; shall exercise appropriate respect for the opinions of others; and shall clearly indicate whether they are presenting personal rather

than institutional views, as the former opinions clearly fall outside the purview of rights associated with academic freedom.

Academic freedom does not confer legal immunity from either criminal prosecution or from a civil action, whether from a claim in damages by a third party or seeking of indemnification and recovery by FUTA, nor does it prevent peer evaluation as conducted or approved by FUTA or by other academic, research or professional bodies in the researcher's field, whether within or outside FUTA.

All members of FUTA community who are engaged in research and scholarly activity during their academic appointment, or who are otherwise authorized in writing by the University for purpose of research and investigative endeavours as governed by this policy, are individually accountable to comply with this policy. FUTA shall take appropriate action for breach of this policy. Academic freedom in FUTA must be based on institutional integrity, rigorous standards for enquiry, which must follow the University's set research and educational priorities.

3.4 Responsibilities of the Researcher

The researcher must ensure that research conducted with research associates, employees, or students of FUTA conforms to ethical values, respecting the fundamental Research Principles of Ethics and Scientific Integrity defined in this Policy. The following are the responsibilities expected to be upheld by researchers in the University:

(a) The researcher must endeavour to conduct research in a scientific and scholarly manner.

(b) The researcher (or team of researchers) must accept responsibility for the design, methodology and execution of the research, plan it in order to optimize the validity of findings, report the limitations of the findings, and indicate where applicable, possible alternative interpretations.

(c) The researcher must recognize and acknowledge the right of fellow researchers to select from a variety of paradigms, methods and techniques.

(d) In the communication of the findings, the researcher must subscribe to the principles of honesty, comprehensiveness and exposure to public scrutiny.

(e) The researcher must not misuse his/her position as a researcher for personal gain.

(f) The researcher has the right to demand that research sponsor(s)/client(s) clearly set out terms and conditions of the research, after which an explicit agreement or contract may be drawn between the two parties in line with laid down procedures by the University.

(g) The researcher must accept the right of the research sponsor(s)/client(s) to request information on the conduct of the research at any stage during the course of the research. However, the researcher should not tolerate interference of sponsors or clients that jeopardize the scientific integrity of the research or prejudice the interest of the research participants.

(h) The researcher should discuss the publication of research findings with the sponsor/clients of research.

(i) Research activities conducted by researchers in FUTA should be targeted at making significant contributions directly and/or indirectly to the welfare and quality of life of members of society.

(j) Research activities in FUTA should not in any way encourage or advance all forms of inequality and injustice in society, but should contribute to the improvement in the lives of the disadvantaged, vulnerable and deprived in society.

(k) The researcher must maintain the highest standards of safety in equipment utilization and experimental procedures.

(l) The researcher must evaluate the potential impact of the research on the environment, and declare the possible impact. (Note that the components of the environment will include the different types of buildings, construction sites, mining and industrial settings, soils, water bodies (ponds, rivers, lakes, streams, oceans, and subsurface waters), flora, fauna and atmosphere. Strict control in the conduct of research will aid in addressing environmental monitoring and control, environmental pollution and waste management.

3.5 Research Ethics for Specialised Subject Classifications

Specialized subject disciplines which call for ethical approval and monitoring of research activities in FUTA, include the following: Humans, Animals and the Environment Research Ethics, Engineering and Technology Research Ethics, Business Research Ethics, and other specialised Research Ethics.

3.5.1 Animals and the Environment

FUTA is committed to ensuring complete ethical handling and humane use and careful responsibility in the handling of animals and the environment for research. Research activities that involve any type of animals (including domestic animals, pets, amphibians, reptiles, mammals, birds, fish, crustaceans, insects, anthropoids) and flora amongst others, are of ethical concern. Care must be taken to ensure that all research is carried out with the necessary respect for the impact that it could have on the physical, biological and spatial environment. All researchers undertaking research with bio-hazardous material that could potentially cause harm to humans, animals or the environment or the researcher and supporting staff must familiarize themselves with appropriate bio-safety and containment procedures. All research involving genetically modified organisms or research that poses a risk to the natural environment or the researcher and supporting staff, must be submitted to the University Research Ethics Committee. Ethical clearance is also required where animals are also used for teaching and exhibition. Under the guidance of CERAD, the University Research Ethics Committee shall:

a) Establish and review guidelines for use of animals and plants in research and teaching;
b) Scrutinize procedures and protocols involving the use of animals and plants for research and teaching;
c) Maintain ethical standards in the handling of animals and plants for research and teaching;
d) Ensure that FUTA ethical standards for handling and use of animals and plants for research and teaching are in conformity with national and relevant international ethical standards for the management of animals and plants for research and teaching.
e) Facilitate seminars and workshops dealing with ethical issues in the use of animals and plants for research and teaching;
f) Stop or terminate the use of animal or plant research activities that deviate from the approved proposal and protocols;
g) Order euthanasia to be carried out if unbearable pain is brought on to an animal through research activities;
h) Order the closure of an animal or plant facility that does not comply with ethical standards.

3.5.2 Engineering and Technology Research Ethics

Engineering and technology researches seek to apply scientific knowledge with technical skills to manipulate matter or phenomena with a view to develop innovations, intelligent systems, engineered products and designs, and optimization of processes with a commitment to the common good. In this regards, Engineering and Technological development form the corner stone to human progress. However, many engineering and technological developments, carry with them potential risks, side effects or implications. Thus, researchers involved in engineering and technology-based research should:

(a) Accept, be accountable, and share responsibility for the work undertaken
(b) Imaginatively foresee risks and possible harms
(c) Diligent monitoring of research projects
(d) Alert others of potential harms to enable them to give informed consent to risks
(e) Factor sustainable development attainments by combining technical and economic factors, social justice, and environmental care in the conceptualization and execution of engineering research.

3.5.3 Business Ethics

Business ethics is a study of moral standards and how they apply to the systems and organizations through which modern societies produce and distribute goods and services, and to the people who work in those organisations.

FUTA promotes academic as well as funded business research. Researchers involved with either or both types of research activity must maintain the following set standards: are required to uphold the following set standards:

(a) Researchers should uphold the highest standards of honesty, and accountability when meeting their research commitments and contractual obligations and should not allow the research to be influenced by considerations of financial gain or anything else.
(b) The researcher will disclose any form of financial gain (or in kind) that stems from the results of a particular research activity.

3.5.4 Other Specialised Research Ethics

This covers research activities that involve hazardous biological, chemical, industrial and geological materials. It also refers to the conducting of research in hazardous environments. Safety considerations are of prime importance especially when dealing with radiation

materials. The proposals must have ethical approval from the University Ethical Committee. Ethical clearance is also required where hazardous biological, chemical, industrial and geological materials are used for teaching and exhibition. Hazardous biological, chemical, industrial and geological materials can cause harm to individuals, animals and the environment.

The Ethical Committee, under the guidance of CERAD must ensure that:

a) staff and students engaged in research activities dealing with hazardous, toxic and ionizing radioactive materials have understanding of ethical issues, guidelines, and good code of conduct in performing such research;
b) hazardous, toxic and ionizing radioactive materials are avoided as much as possible in the execution of research activities and only used where there is no suitable alternative;
c) staff, students, and members of the university community, engaged in research activities involving hazardous, toxic ionizing (x-rays, gamma rays, alpha and beta particles) and non-ionizing (microwaves, radio waves, ultra violet rays) radiations have no or very limited exposure to radiation materials;
d) Ensure that staff and students engaged in research activities dealing with hazardous, toxic and ionizing radioactive materials have adequate knowledge of appropriate accident and emergency procedures.

3.6 Conflict of Interest

A conflict of interest occurs when professional judgment regarding an interest e.g. research, is unduly influenced by another interest e.g. financial gain or gain in personal status. Conflicts of interests are an inherent and unavoidable part of the academic research environment and can be effectively managed by disclosure and transparency. Researcher conflicts of interests are of particular importance when an unacknowledged or undisclosed interest, financial or otherwise, may negatively affect the results of research.

In particular, researchers should be aware of, and where appropriate disclose, the following potential conflicts of interest:

a) Equity or stock holding in a sponsor company;
b) Propriety interests in intellectual property such as copyright, product/process patenting, industrial designs and trademarks, and licensing agreements.

c) Paid grants for speaking arrangements, retainers for ongoing consultations, sitting on Advisory Boards and the extent of these payments must be declared.
d) Travel and conference sponsorships that receive funding from more than one sponsor must be explained in detail.
e) Recruitment fees or other personal payments that are linked to study outcome, in any way;
f) Co-authorship of articles, where the co-authors' input has been minimal may be arranged in order of importance, based on the significant scholarly contribution made to the publication
g) Funding by a sponsor for additional staff facilities, especially if not directly linked to the research project
h) Equipment for use in a study that will then belong to the department;
i) Donation of equipment unrelated to study;
j) Contributing to a departmental research budget.

3.7 Mentorship

Mentors should ensure that the research relationship or project commences with clear understanding of mutual responsibilities, a commitment to maintain a supportive research environment, proper supervision and an understanding that the main purpose of the relationship is to prepare trainees such as Research Assistants and Young Researchers to become successful researchers. Mentors are expected to counsel those under their supervision and guide them on their obligations in respect to academic integrity and acquaintance with the University Research Ethics.

Young researchers in turn, have a responsibility to complete assigned work conscientiously, respect the authority of others working in the research setting, follow research regulations and protocols and abide by the agreements established for authorship and ownership.

Mentors or supervisors should apply the principles of authorship described below to publications of research, where a student has made significant contribution. If the bulk of the work, including the innovative and development aspects, has been completed by the student, then the student should be considered for lead authorship.

3.8 Authorship

Researchers are expected to make a reasonable effort to publish the results of their research in scholarly publications. The following principles apply to authorship:

a) Authorship credit should be based on substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data; drafting the article or revising it critically for important intellectual content; and final approval of the version to be published.
b) Acquisition of funding, collection of data, or general supervision of the research group alone, does not necessarily justify authorship;
c) An administrative relationship to the investigation does not of itself qualify a person for co-authorship;
d) The order of the names in a publication is decided according to the quality of the contribution, the extent of the responsibility and accountability of the results, and the custom of the discipline;
e) The attribution of authorship is not affected by whether researchers were paid for their contributions or by their employment status;
f) An author who submits a manuscript for publication accepts the responsibility of having included as co-authors all persons who are entitled to co-authorship, and none who are inappropriate;
g) The corresponding author should send each co-author a draft copy of the manuscript and should make a reasonable attempt to obtain consent to authorship, including order of names; and other contributions should be indicated in a footnote of an 'Acknowledgements' section, in accordance with the standards of the discipline and the publisher.

3.9 Scientific Misconduct

3.9.1 Definition and Forms

Scientific misconduct (fraud) happens when false statements are made intentionally or as a result of gross negligence in a scientifically relevant sense, when others ' intellectual property is infringed, or when their research work is compromised in some way. Researchers are required to maintain the highest standards of honesty and integrity. Researchers must always function within the existing research paradigm and deploy methodological frameworks which are ethically acceptable. Any form of academic dishonesty will be regarded as a serious offense, which includes but not limited to the following:

a) Plagiarism: The use of the ideas, processes, results or words of other people without giving adequate credit. Upon proof that a researcher has represented the work of another person as his own, the researcher shall be presumed to have done so

knowingly; the researcher shall bear the burden of the presumption of rebuttal by proof that the person or body hearing the case that no such knowledge existed.

b) Fabrication: creation or invention of data and tests results, and documenting or reporting them with the intention to mislead or deceive the envisioned audience.
c) Falsification: manipulating research materials, equipment, procedures or modifying findings, so that the study is not portrayed correctly in the research record. It involves intentional provision of false research information or deliberate misrepresentation of research results.
d) Infringement of intellectual property: This includes the unauthorized exploitation involving usurpation of authorship (plagiarism), the misappropriation of research methods and concepts, the usurpation of scientific authorship or co-authorship, or the unjustified acceptance thereof, the falsification of the contents or the unauthorized publishing and making accessible to third persons of work, findings, hypothesis, theory or research method not yet published.
e) Sabotage: This includes the damaging, destroying, or manipulating of experimental procedures, equipment, documents, hardware, software, chemicals or other items required by another person for performing or undertaking research.
f) Misappropriation of research grants: This entails the violation of the terms for the use of research grants. This can hinder the successful implementation of and completion of research projects.
g) Violation of ethical norms and laws regulating research involving human or animal subjects.
h) Violation of safety norms, procedures and regulations for research involving environmental hazards.
i) Misuse of research funds and research equipment and vehicles.
j) Not declaring a personal financial or other conflict of interest.

3.9.2 Consequences of Research Misconduct

If the investigation into allegations of research misconduct have been established against a researcher, the consequences that shall be determined on individual cases includes any combination of but not limited to the following:

(1) Reprimand
(2) Dismissal
(3) Suspension

(4) Withdrawal of degree/retraction of publications

(5) legal cases

(6) Public apology

3.9.3 Procedure for Handling Research Misconduct

The University undertakes to thoroughly investigate and act appropriately on all allegations of research misconduct according to the findings and recommendations of such investigations. Complaints concerning any researcher's misconduct should preferably be made in writing and referred to the Head of Department, the Dean of Schools or the Chair of the Research Ethics Committee of Universities. The allegation will be investigated by the relevant Research Ethics Committee. Minor issues will be discussed and resolved at Department or School level. More serious matters will be referred to the University Ethics Committee for further investigation and action. Standard University Disciplinary procedures will be followed, if appropriate.

3.10 RESEARCH ETHICS IMPLEMENTATION AND MANAGEMENT

FUTA Research Ethics Committee will manage research ethics affairs at the University.

The Centre for Research and Development (CERAD) will be responsible for the coordination, development and implementation of the University's research ethics policy. In addition, CERAD will liaise with key internal and external stakeholders such as the various Schools, Departments, Centres, Academic Units, and research partners outside the University (Government and private organizations) to ensure that this policy serves as the basis for all research engagements within the University, and between the University and external bodies. Furthermore, CERAD will conduct workshops on research ethics for both staff and students.

4. INTELLECTUAL PROPERTY POLICY

4.1 Preamble

The Federal University of Technology, Akure (FUTA) is a community of academics, non-academics, technologists and students. FUTA is committed to providing enabling environment that supports research and teaching activities of all her staff and students in the pursuit of excellence and sustainable technology for the public good. The university wishes to encourage all members of its community to create original works of authorship and to engage in free expression and exchange of ideas that allow them to be rewarded for their knowledge and creativity.

FUTA believes and recognizes the fact that to record huge success in the process of commercializing any Intellectual property (IP) created by her staff and students, she has to take into consideration the rights, obligations and benefits that would accrue to the inventor(s) on one hand and the Institution on the other hand.

WHEREIN, the University guarantees adequate protection of the interest of the inventor(s) including payment of any financial benefit(s) that shall accrue thereon touching and concerning the IP with a view to achieving a win-win situation on all sides.

4.2 Objectives, Coverage and Issues to be addressed by FUTA Intellectual Property Policy

1. The basic goals of FUTA IP policy are to:
    - protect the IP generated in the institution;
    - promote the progress of science, technology and innovation.
    - ensure that discoveries, inventions and creations generated by staff and students are utilized in ways most beneficial to the public.
2. In order to harmonize the various interests of stakeholders and achieve broad-based objectives, the following issues are addressed:
    - Coverage of IP policy;
    - Ownership of IP;
    - Disclosure of IP;
    - Marketing, commercialization and licensing of patents;
    - Distribution of income;
    - Rights and obligations of an inventor and the institution; and
    - Other pertinent issues

4.3 Concept and Definitions

1. University community means any student enrolled at the University and any student from another University or other tertiary institution who is carrying out research at FUTA under the supervision of a member of staff of FUTA and any member of staff of the university including visiting lecturers, etc.
2. IP means Know-how, Software, patents, industrial designs, Trade Marks, Names and Insignia, Copyright and other confidential matters and trade secrets, to which the common law affords protection.
3. Originator means a member of the University Community who has devised, developed, authored, invented or otherwise created IP while carrying out research in the course of his/her employment by the university.
4. Private Work means work done for personal gain, carried out by an employee of the University within the field of academic discipline in which the employee is employed subject to the provisions of the University's Standing Orders for Private Work by University Staff.
5. Resources include the means by which what is necessary or essential for the pursuit of the objective of a research project is attained. Without limiting the generality of this, resources include physical resources such as accommodation and materials, human resources assigned to work on a project and any contribution of IP to a project including funding.
6. Sponsor means a person who contributes funds to the University to support a specified activity by either any student or any member of staff of the University.
7. Commercialization means the exploitation of IP primarily for financial gains.
8. Net income means gross income less expenditure as determined in accordance with the University's policy on cost recovery.
9. Contract means a legally binding mutual agreement between two or more parties in which an exchange of value occurs which ties each party to certain duties and covering that exchange.

4.4 Agreement

Any originator and the University may enter into a written agreement providing for the commercial exploitation of IP devised, developed, invented, authored or created by the originator. All rights in and to such IP are governed by the provisions of this policy as amended from time to time insofar as the terms of such a written agreement do not provide to the contrary. Relevant agreements to be signed include: Participation agreement, service agreement, material transfer agreement and confidentiality agreement (where and whichever applicable).

4.5 Sharing of Profits

The net income arising out of the commercialization of IP owned by the University will be shared between the University on the one hand, and the originator or originators of the IP on the other. The sharing ratio shall be: Originator(s) 50%, Originator's Dept. 15%, School 5%, CERAD 30%. If there is more than one originator, then the originators' share will be shared between the originators in proportion to the relative contribution of each of them or any other ratio that may be agreed upon when entering into an agreement.

Any originator who is the sole deviser, creator or developer of any IP and who does not wish that the IP be commercialized may stipulate that such IP be used not for financial gain, but to serve the public good. Should there be more than one originator and one or more wishes to benefit financially, any financial gain must be shared amongst the originators in accordance with the contribution of each and any originator who does not wish to benefit financially may donate his or her share of the proceeds to the University or other agency.

4.6 Ownership of IP

Unless the University and any originator of IP enter into an agreement that provides to the contrary, then IP developed or originated by the members of the University Community is owned by the party or parties as stipulated below:

4.6.1 Employees

The University shall own all IP originated or developed by its employees in the course and scope of their employment other than private work carried out by the employee under the University's rules governing **private work** including consultations and

commissions. The University shall be entitled to a portion of the income derived by the employee arising out of private work determined on the basis of what portion of the work was done using resources of the University. In any event, the portion must be no less than the cost to the University of the use of its resources in the execution of the work. The employee may enter into an agreement with the University to manage the commercialization of IP arising out of private work.

4.6.2 Employees visiting other Institutions

The University shall own a portion of any IP arising out of work carried out by its employees while visiting other institutions. The portion due to FUTA should be relative to the input of resources of whatever kind it has contributed to the development of the IP, but in any event no less than twenty-five percent. The provisions above will apply to the sharing of any benefits arising out of such IP.

4.6.3 Visiting Lecturers

The University shall own a portion of any work carried out by visiting lecturers. The portion due to FUTA should be relative to the input of resources of whatever kind it has contributed to the development of IP by the visiting lecturer but in any event no less than twenty-five percent.

4.6.4 Honorary and other members of Staff not in Receipt of Remuneration from the University

The ownership of IP arising out of work carried out under the auspices of the University by honorary and other members of staff not in receipt of remuneration from the University shall be subject of an agreement between the parties at the time of appointment of such staff. The agreement shall consider the relative proportion of resources of any kind that the University contributes to the development of IP by such members of staff.

4.6.5 Students (including Teaching, Research and Graduate Assistants)

- The same provisions regarding the ownership of IP made or created in the course of their employment by the University as apply to other employees of the University apply to students enrolled at the University.

- The University shall own any IP devised, made or created by any student carrying out research under the supervision of any employee of the University. The provisions above shall apply to any income arising out of the commercialization of such research.

4.7 Granting of Rights to Third Parties

The University may enter into agreements with sponsors of research and other outside collaborators. The provisions of these agreements shall provide for the assignment of IP rights to the sponsors or collaborators. The exploitation of IP rights will be in accordance with the provisions of these agreements.

4.8 Dispute or Conflict Resolution

Any disputes arising out of matters covered by this policy will be referred to Chairperson of the Governing Council or his/her duly authorized representative for resolution. The decision of the Chairperson or his/her authorized representative shall be final.

4.9 Management of this Policy

The office of Vice Chancellor is responsible for the management of this policy.

5. UNIVERSITY HERBARIUM

5.1 Introduction

Herbarium is known to be the most essential, expensive and difficult to develop of all facilities for the study of systematic botany and it is a collection of dried, pressed and nicely preserved plant specimens, arranged in the sequence of an accepted system of classification in a secured location (Gill, 1988). This is to be deposited as voucher in herbarium for reference for future scientific uses. It is always important for researchers working on plant to deposit voucher to support future research work because of the rate of disappearance of plants seems to be relatively proportional to development of the country.

The plant specimens or vouchers of any research work deposited in the herbarium serve as pioneering or exploratory phase of plant taxonomy in the institution or country. This in turn helps to base subsequent studies into careful comparison with another in the herbarium for authentication or accurate determination of specimen. It is mandatory for every researcher working on plant to have their plant deposited in functional, regional herbaria for record keeping and preservation.

It is worthy of note that the item (8) of Ten International Botanical Congress held in Edinburgh in August 1964 stated as follow*: All researchers are urged to deposit voucher specimens in accessible herbaria of plants used in their investigations and in their publications, the herbaria where these specimens are preserved should be cited. Editors of journals should try to ensure that this is done.*

5.2 Function of FUTA Herbarium

The functions of the FUTA Herbarium include:

i. Accurate identification of various plant specimens for institutions and researchers.
ii. Preservation and conservation of scientifically identified named specimens of Tropical plants
iii. Supply of various kinds of plant specimen to scientists or researchers
iv. Training and workshops services for plant technicians, plant collectors, technologists, laboratory attendants and assistants in herbarium techniques/ establishment and plant identification for tertiary institutions.

5.3 Procedure for Collection of Certificate of Authentication

a) All Staff and Students who work on plants shall collect certificate of authentication for the research work.
b) Application forms(s) shall be collected from CERAD after the payment of appropriate fees
c) Certificate of authentication shall be issued after consideration of the application

5.4 Phytomedicinal Garden

The Medicinal Plant Garden is of multiple significance with special reference to study of medicinal value of plants, preservation of endangered species, and domestication of exotic plants of economic importance. The Medicinal Plant Garden is presently managed by CERAD. Medicinal plants from various geographical regions of the world are sourced for and planted according to their natural habitats, i.e. Trees, shrubs, climbers, herbs and grasses. These are made available for research uses and purpose. It also serves as acclimatization centres for many medicinal exotic plants which can be distributed to other gardens for use.

6. MANAGEMENT, MONITORING AND EVALUATION, AND REVIEW OF THE POLICY

6.1 Management of the Policy

The Centre for Research and Development (CERAD) is responsible for the management of this research policy.

6.2 Monitoring and Evaluation

In order to always maintain high quality research outputs and to achieve the stated objectives of this research policy, it is essential for FUTA to monitor and evaluate the performance of its researchers. When and where deviations from the objectives of FUTA research policy are observed, corrective measures (to be determined by CERAD) are invoked, and its effects monitored. As these objectives are dynamic in nature, they could be changed from time to time. Consequently, the monitoring, evaluation and corrective actions/measures will be continuous in nature.

6.3 Review of FUTA Research Policy

As national and international research policies and environment change, it is expected that research conducted in FUTA should also follow the trend. As a result, FUTA research policy shall be reviewed every 5 years by a review committee which will be set up by the Vice-Chancellor and chaired by the Director of CERAD.