RESEARCH AND DEVELOPMENT (R and D) MANUAL AND AGENDA

CEBU TECHNOLOGICAL UNIVERSITY

Cebu City, Philippines

Revised 2016

VISION

A globally competitive research arm of the university pursuing breakthroughs of pioneering products and services from basic and applied research pursuits across disciplines

MISSION

Conducts pure and applied research in agriculture, fishery, engineering, industrial trade, health and wellness, humanities, natural, environmental and social sciences, information technology, teacher education, hotel and restaurant services and other areas of discipline; executes widespread dissemination of research outputs and strengthens linkages with the local, national and international communities; furnishes relevant data as per inter-agency sanctions and other connectivity in the global scenario

GOALS

Develop research culture in the university

Provide quality researches and development programs responsive to the needs of society in the various fields of discipline

Produce research outputs that alleviate or help mitigate the existing problems in the local, national and international communities

Promote publication of research outputs in national and international refereed journals for wider dissemination

FOREWORD

Cebu Technological University embraces the challenge of putting research as one of its strong pillars as an academic institution. The University intends to strengthen its research capabilities along multi disciplinary areas highlighting agriculture, fishery, engineering, industrial trade, health and wellness, humanities, natural, environmental and social sciences, information technology, teacher education, hotel and restaurant services, taking into consideration priorities set by the Commission on Higher Education - National Higher Education Research Agenda (CHED-NHERA), Department of Science and Technology (DOST) and Department of Agriculture - Bureau of Agricultural Research (DA-BAR), the United Nations Millennium Development Goals (UNMDG) and other relevant agenda of distinguished agencies and organizations.

Crafted by the minds of the men and women who comprise the University Research Council, this Research Manual and Research Agenda provide the general operations and guidelines of doing research in the University. This book contains two general parts namely: Part 1 (the Research Manual) and Part 2 (the Research Agenda). Part 1 has three parts namely the Thrusts and Objectives; the Structure of the University Research and Development Office; and the Operations. The last part details the guidelines starting from the submission of proposals to publication of research outputs. On the other hand, Part 2 contains updated research priorities of the University. This edition also incorporates the provision of awards and incentives for publications and for winning papers presented during the University Research Congress.

ROSEIN A. ANCHETA, JR., ASEAN P. E., D. M., Ph. D.
University President

TABLE OF CONTENTS

Vision, Mission, Goals 2
Foreword 3
Table of Contents 4
List of Figures
Figure 1. Research and Development Organizational Structure 13
Figure 2. Submission of Research Proposals 15
Figure 3. Evaluation and Approval of Proposals 17

PART 1. RESEARCH MANUAL 7

Research Thrusts and Objectives 8
Research and Development Focus 8
The University Research and Development Office 9
The Vice President for Research and Development 9
The University Director for Research and Development 9
The Research Chairman 10
The Research Centers 11
University Research Management Staff 11
The Research and Development Council 12
Operations 14
Submission of the Research Proposals 14
Evaluation of Researches 16
University Research Congress 16
Evaluation of Proposals 16
Evaluation of Full Papers 18

Budget for Research Proposals 18
Budget Evaluation 18
Endorsement of Proposals 18
Budget Allocation for Line Item Budget 18
Budget Release and Notification 19
Policies on Conduct of Research 19
Proponents 19
Authorship 20
Incentives of Researchers 21
Implementation of the Project 25
Monitoring and Evaluation 26
Dissemination 26
Entitlements and Eligibility to Research Dissemination Fund 27
Application Procedure and Required Documents 28
Other Terms and Conditions 29
Publication 30
Guide to Authors 30
Manuscript Preparations 30
Submission of Manuscripts 33
Reprints 34
Appendices 35
1. Quarterly Project Accomplishment Report Form 35
2. Research Monitoring Form 36
3. Completion Report Form 37
4. Quarterly/Annual Report Form 38
5. Technical Evaluation of a Research Proposal 39
6. Technical Evaluation of a Research Paper 40

PART 2. RESEARCH AGENDA 41

Integrated Research Agenda (2016-2020) 42
Rationale 42
Objectives 43
Brief History of the CTU 43
Research Thrusts and Priorities 45
Agriculture, Forestry, Environment, and Natural Resources 45
Fisheries 45
Education, Arts, and Sciences 47
Technology and Engineering 52
Graduate School 53
University Research Centers 54
Integrated Coastal Resource Management (ICRM) 54
Center for Limnological and Mariculture Studies (CLMS) 54
Biodiversity, Environment, and Natural Resources Research Center (BENRC) 55
Biotechnology Research Center (BRC) 55

Commitment 57
Committee Form and Style Committee 58
Research and Development Services Directory 59
Campus Directors/College Deans, R and D Chairpersons, and Research Center Heads 60
Resolution Approving the Research and Development (R and D) Manual and Agenda 61

Part 1

RESEARCH AND DEVELOPMENT MANUAL

RESEARCH THRUSTS AND OBJECTIVES

The Cebu Technological University research programs support the generation, dissemination, diffusion and promotion of multidisciplinary and appropriate agriculture, fishery, forestry and natural resources, trade and industrial technologies, basic services and education, engineering, arts, and social sciences to uplift the general well-being of the people. The University aims to accomplish the following objectives:

1. Develop a quality research-based knowledge to improve agriculture, fishery, forestry and natural resources, trade and industrial technologies, basic services and teacher education, engineering technologies, arts and social sciences and other relevant thrusts.
2. Increase and sustain the generation and transfer of ecologically-sound research outputs.
3. Strengthen linkages with partner institutions, organizations and communities through dissemination and technology transfer.
4. Establish and strengthen collaboration with local, national and international research institutions and organizations.

Research and Development Focus

Basic, developmental, applied multidisciplinary researches in agriculture, fishery, forestry and natural resources, trade and industrial technologies, basic services and education, engineering and social sciences and on other relevant thrusts for rural and urban development in

consonance with the priorities of the Philippine Government such as but not limited to DOST, CHED and DA-BAR, and of other organizations both local and foreign.

THE UNIVERSITY RESEARCH AND DEVELOPMENT OFFICE

The Office is headed by a Vice-President who shall directly report to the University President regarding R&D activities of the University.

The Vice President for Research and Development (VPRD)

1. The Office of the VPRD shall be the overall coordinating body of all research endeavors of the University.
2. It shall spearhead the setting of plans, agenda and priorities of the University.
3. It shall also lead in establishing research linkages to government and non-government agencies whether local, national or international.
4. It shall spearhead in the publication and intellectual property rights protection of research and development outputs.

The University Director for Research and Development (UDRD)

The Office of the UDRD shall assist the VPRD in carrying out the research mandate of the University. The Office shall take charge of the following activities:

1. Call for research proposals and technical papers.
2. Facilitate the review of all submitted research pro-

posals and technical papers specially when external evaluators are needed.

3. Prepares budget requests and releases for all research projects that will be funded by the General Appropriations Act (GAA).
4. Conducts periodic monitoring of research projects and centers to ensure proper implementation and timely completion of all funded research projects.
5. Facilitates the conduct of regular Research Congress of the University.
6. Recommends the giving of awards and recognition to outstanding research units and researchers of the University.
7. Maintains a database of projects conducted in the University to avoid duplication and over commitment to a particular research topic.
8. Requires the submission of reports from each research unit/center.
9. Maintains the circulation of research outputs to various SUCs, agencies and libraries.
10. Facilitates the establishment of linkages with other research organizations.
11. Performs related functions as maybe required by the appropriate authority.

The Research Chairman

There shall be a Research Chairman for each College in the Main Campus and for each Satellite Campus, whose duties, functions and privileges are equivalent with that of an academic chairperson.

The Research Chairman shall be in charge with the management of research activities of the College or Cam-

pus. He/she shall be directly under the College Dean at the Main campus and the Campus Director at the satellite campuses.

The Research Centers

The University Research Centers will be managed by a Center Director or the Research Chairman of the College or the Campus where it belongs. The duties, functions and privileges of the Center Head are equivalent with that of an academic chairperson.

The Center shall carry out research activities specific to its mandate. As a Research Center, it has to come up with projects, reports and publications. Proposals generated from each Center for General Appropriation Act (GAA) funding shall be evaluated during the University Research Congress.

Each established research center shall have a regular annual budget allocation of at least Five Million Pesos (PhP 5,000,000.00) from the University funds.

The Center may also generate funds from external sources.

University Research Management Staff

There shall be a Research Management Staff to assist the Office of the VPRD. The staff shall be composed of an IPO (intellectual property officer), PICRO (publication, information, communication and relations officer), desktop specialist and administrative staff.

Likewise, a Research Management Staff (RMS) of the University that generally assists the Office of the UDRD. The Research Management Staff shall be composed of Education Program Specialists (EPS) with varied

specializations and a Statistician.

The EPS shall basically assist faculty researchers in the formulation of research topics and monitor project implementation to ensure timely completion of projects. Likewise, the Statistician primarily helps researchers in determining appropriate statistics for their studies.

A computer expert may be hired to work on IT related aspects of the Office.

The Research and Development (R and D) Council

The R and D Council shall serve as the highest recommending body of the University in matters concerning research. It shall be composed by the University President as Chairman, the University Vice President for R & D as co-chair, the University Director for R & D as assistant chair. Other Vice Presidents, Campus Directors, the College Deans (in the Main Campus only), Research Chairmen and the Center Directors of each Research Center as members.

After evaluation, the R and D Council sitting en banc shall have the power to endorse all proposals to be funded by GAA to the University President for approval. It shall also serve as endorsing body sitting en banc to the President or to the Board of Regents (BOR) for any research presentation outside the country.

The R and D Council shall see to it that presentations either within or outside the country are organized by non-bogus and non-predatory organizations such as those listed in the Beall's list.

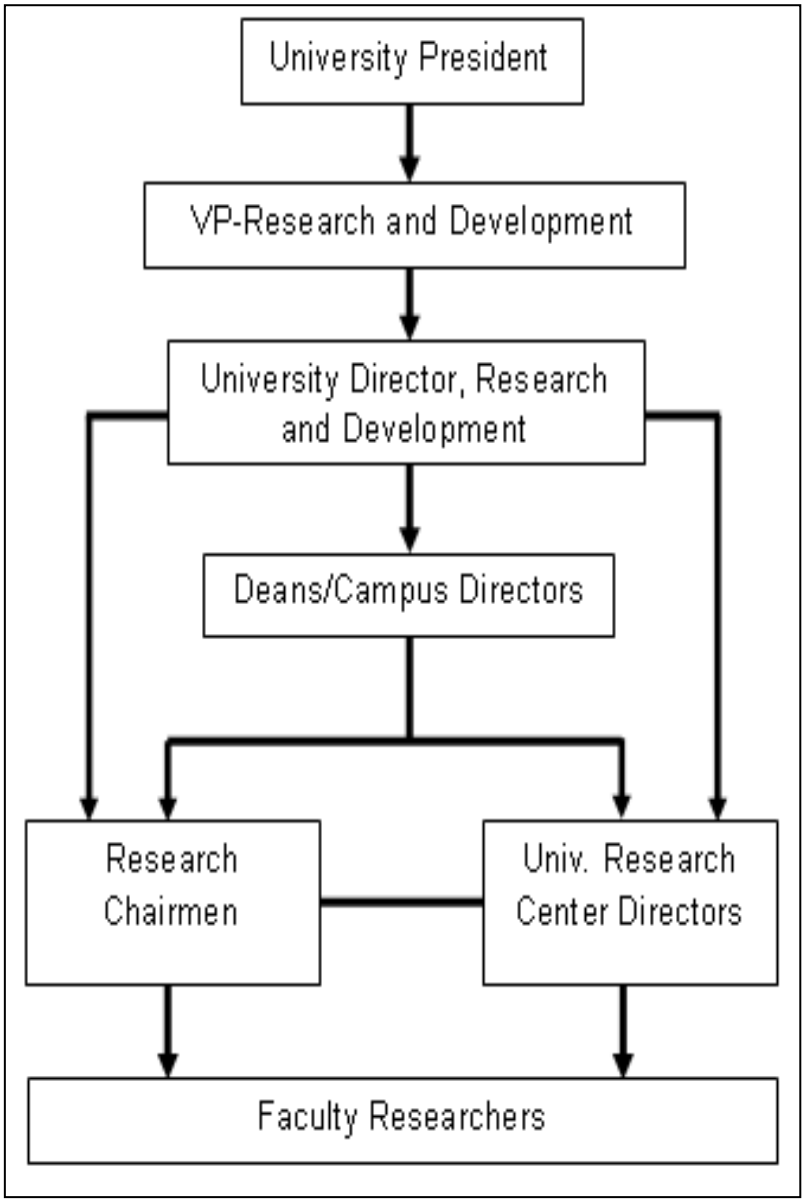

Figure 1. Research and Development Organizational Structure

Additional details on research dissemination are discussed in page 23 under Research Dissemination.

I. OPERATIONS

The operations of the Research and Development Services shall adhere to the following guidelines:

Submission of Research Proposals

Researchers shall submit proposal(s) to the Research Director for initial review of technical merit, format and budget. Each proposal shall contain the following parts namely;

A. Basic Information which is composed of the title, proponent(s) with their position and affiliation, total budget required and project duration;

B. Technical Description which consists of the following:

B.1 Introduction to include review of literature,

B.2 Objectives,

B.3 Materials & methods (to include full details of all activities to be undertaken in the project)

C. Detailed Budgetary Plan (showing Line Item Budget) which consists of the following:

C.1 Personnel Services (PS)

C.2 Maintenance & Other Operating Expenses (MOOE) such as travels, supplies, materials, laboratories, others;

D . Implementation Plan in Gantt chart

E. Curriculum Vitae of proponents highlighting proponent's abilities and experience in relation to the proposed study. The proposal will then be submitted to the

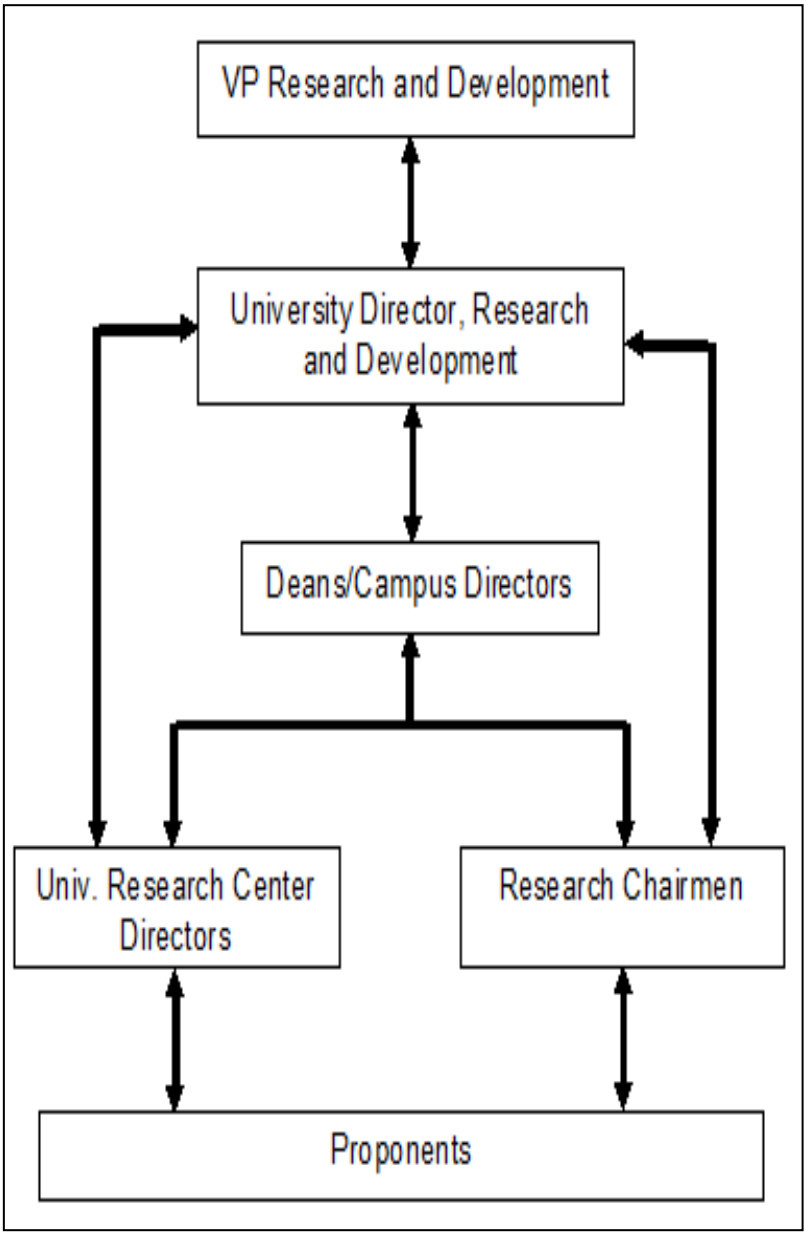

Figure 2. Submission of Research Proposals

office of the UDRD for distribution to evaluators.

The Office of the University Director for R & D may call for additional proposals if there is still considerable budget left after all qualified proposals are endorsed by the Council for approval. The proposals may be evaluated only by the R&D Council and will still be judged according to its technical merit.

II. EVALUATION OF RESEARCHES

University Research Congress

The University shall hold an Annual Research Congress to provide an avenue for evaluation of all researches both in proposal and completed projects. Evaluation of researches shall be done in cluster areas in collaboration with the Research Centers of the University.

As the case may warrant, Research Centers of the University may also hold a separate Research Congress.

Evaluation of Proposals

Proposals will be evaluated based on the appended criteria (Appendix 5). Endorsement for funding shall be based on the points earned after the presentation in the University Research Congress and overall comments/ recommendations of technical experts.

Proposals with many phases should be funded by phase and each phase should produce a technical and publishable report. Succeeding phases shall be proposed in the following year for funding.

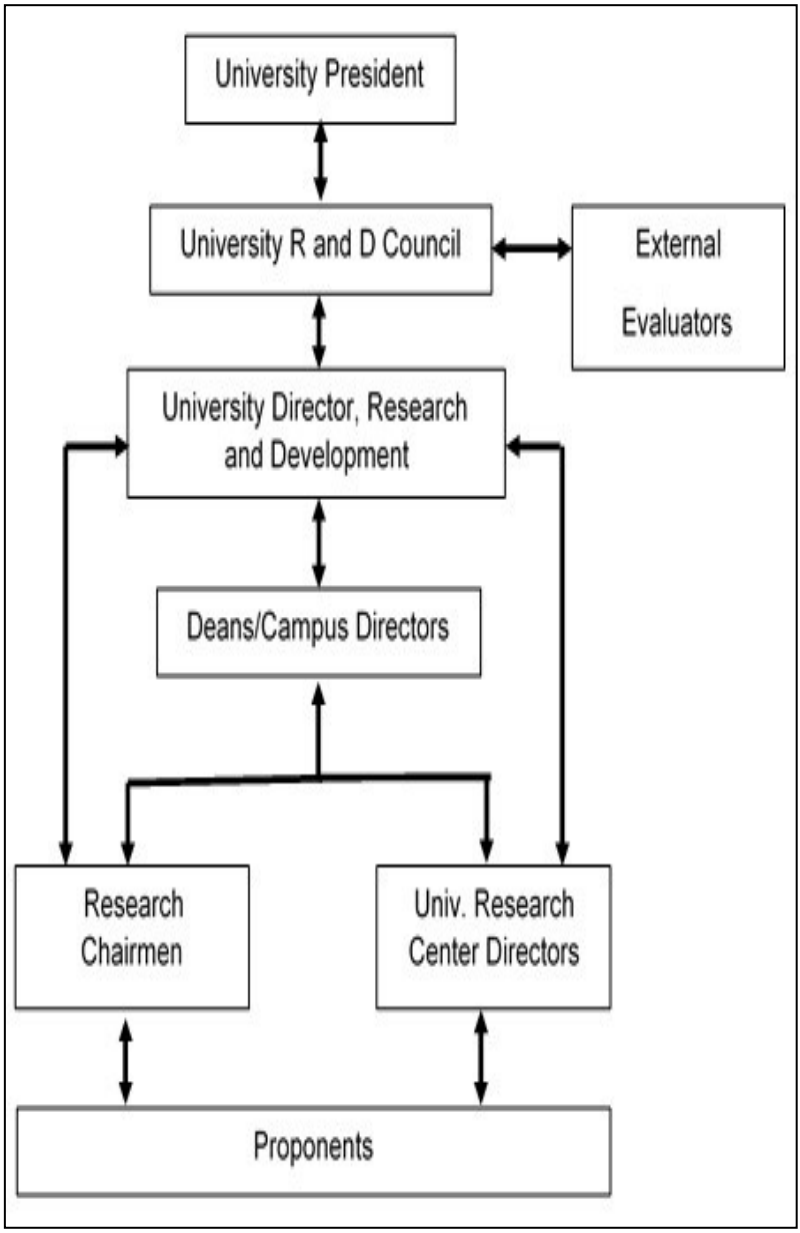

Figure 3. Evaluation and Approval of Proposals

Evaluation of Full Papers

Full papers will be evaluated based on the appended criteria (Appendix 6). Researchers of winning papers shall be given corresponding awards and recognitions as reflected in the succeeding section of this manual.

Budget for Research Proposals

The maximum funding for any particular GAA-funded research project is P250,000.00 but may be reduced based on evaluation. Proposals with funding requirements exceeding P250,000.00 shall be submitted to other funding organizations or advised to reduce budget by trimming the scope of the study.

Budget Evaluation

After the technical evaluation of research proposals, the consolidated budget of all proposals that have met the technical merit during the University Research and Development Congress will be presented and defended by the respective Research Chairman together with the Campus Director/College Dean. As the need arises, the study leader for a project may be required to attend the budget evaluation.

Endorsement of Proposals

Proposals that have undergone evaluation will be endorsed by the R and D Council through a Resolution for approval by the University President.

Budget Allocation for Line Item Budget

The office of the UDRD shall prepare a budget matrix of all proposals and/or on-going projects with recommend-

ing approval of the VPRD, certification of the availability of funds by the University Finance Management Officer and University Accountant and approval by the University President.

Budget Release and Notification

The Office of the UDRD will request for the release of the budget from the Finance Office for the implementation of the approved projects. Campus Directors and/or Research Chairmen of all the campuses/college will be notified through a memorandum from the UDRD when their respective budgets have been released.

III. POLICIES ON CONDUCT OF RESEARCH

Proponents

Any personnel organic in the University can be a proponent of any research proposal. When there are two or more proponents, one shall serve as Project Leader while the rest shall serve as co-researchers. There shall only be **one project leader and three co-researchers per research proposal** to be funded. The number of co-researchers maybe reduced if necessary through a memorandum during the call for proposals.

Each personnel is allowed to serve as Project Leader for a maximum of two projects. The Project leader shall serve as the focal person of the project in its implementation, submission of updates and eventually the terminal report. After project completion, proponents are obliged to submit a technical report following the IMRAD format.

For purposes of project credit in the event when a proponent from one campus is detailed full time to another

campus prior to the submission of the proposal, credit shall be in favor to the campus where the proponent is detailed. In case when the proposal was submitted prior to the detail, credit shall be in favor to the previous campus. The same principle will be applied in the event when the detailed faculty goes back to his/her original campus of assignment.

Part time faculty can be a proponent of any research project but will only serve as Co-researcher.

To improve quality of research in the University, the proponents may partner with technical persons or organizations who have good expertise or equipment to support the conduct of the project being proposed. To formalize the partnership, a Memorandum of Agreement may be inked between CTU and the partner agency. Proponents who are not connected with the University shall only be entitled to **an agreed consultancy fee.**

Authorship

There shall be **no limit in the number of authors per project or article produced**. While the Study leader or the senior author has the decision who is to be considered an author, one shall be considered an author based on his expertise and technical contributions to the project or paper. “Gift authorship” referring to inclusion of any name as author or co-author of the paper and is not actually part in conducting the research is not allowed in the University.

For articles derived from students’ theses, the student shall always be the senior author and hence his/her name appears first in the list of authors, regardless of the adviser’s efforts in making the publishable article (Bautista et al, 2012). After all, students cannot graduate without comple-

tion of their theses or dissertation.

Incentives of Researchers

Researchers are entitled to incentives to be encouraged to do more research as one of the mandated functions of the University. Incentives can be monetary, non-monetary or both, which include other professional services, publication incentive, additional funding and other additional research and development-related awards that may be approved by the BOR.

***Other professional services*.** Other professional services of faculty members doing research funded by GAA shall be entitled to a maximum monthly overtime pay of P2500 as study leader and P2000 as co-researcher.

To prevent abuse of funds for research overtime allocation, the total amount for PS allocated for overtime pay of researchers shall not exceed 35**%** of the total project cost. Where the total cost for research overtime is **equal to or less than 35% of the project cost**, study leaders and co-researchers are entitled to the full amount of **P2500 & P2000 per month**, respectively. Otherwise, research overtime allocation will be governed by the 35% ceiling of the project cost and such amount will be proportionately shared by the study leader and co-researchers.

Payment for research overtime may be made once or twice within the period of project implementation. If the campus decides for a mid-term payment, project report update shall be submitted by the proponents prior to the payment. Payment of research overtime for the remaining months shall only be made after project completion and submission of report. All part time faculty involved in research shall be paid for their research overtime upon rec-

ommendation of the study leader.

Daily Time Record (DTR). Daily Time Record (DTR) shall be submitted for the claim of research overtime. For organic personnel, periods credited for overtime shall only include those rendered after eight hours of service rendered on regular working days and those that are not in conflict with their evening, graduate school and other assignments with remuneration to avoid double compensation. Any overtime period claimed shall be at least 30 minutes.

For part time faculty who are involved in research, their research overtime on regular working days can be claimed between the regular working hours provided that they have no classes as reflected in their approved teaching load.

The number of hours required for overtime pay shall be based on the guidelines stipulated in the DBM Budget Circular. Number of hours claimed for overtime should be reflected in the printouts obtained from the biometric machine. If overtime is rendered off-campus during the conduct field works, travel order should be attached.

Payment shall be made proportionately if monthly overtime is less than the approved rate. In cases when the number of overtime hours rendered for the month exceeds from what is expected to be rendered, payment of overtime shall be in full. Extra time rendered for a particular month shall not be credited for another month.

If researchers travel for the project i.e. processing permits, collection of data, etc. on a working day, only periods spent in the field beyond 5:00PM shall be considered for overtime pay. If travels are conducted during weekends and Holidays, the number of hours rendered shall be based

on the preceding section. Travel order and itinerary of travel need to be attached for the claim.

Awards and recognition. Faculty researchers/ research units of the University shall be entitled to awards and recognition to encourage them to do more research. Awards shall be in the form of cash, non-cash or both.

Cash awards shall be given to researchers who would win (1st, 2nd & 3rd) during the University R&D Congress. Cash awards shall not exceed the amount of P5000, P3000 and P2000 for the 1st, 2nd and 3rd place winners, respectively, subject to availability of funds. Categories of the papers shall include but not limited to Fisheries; Agriculture; Food Product Development; Engineering, Information and Communications Technology; Industrial Technology; Education; Social Sciences; and Environment.

Awards shall only be given to papers that meet the minimum score of 85%. Cash awards and incentives shall be charged to GAA funds for Research or from the Special Trust Fund (STF) of the University whichever is applicable.

For a Research Unit i.e. College (Main Campus only), research centers and the satellite campuses, non cash awards or recognition shall be given to the Unit, Unit-in-Charge (Chairman) or both for the unit's outstanding performance in carrying out the Research function of the University. The prospective unit for the award shall be evaluated based on approved criteria to consider the number of projects funded from GAA, projects completed in the original time frame, number of projects with funds externally-generated and number of publications or patents and other relevant parameters.

Publication and patent incentive. To encourage researchers to publish or patent their works, the University

adopts an incentive scheme to acknowledge and recognize their efforts. All papers published in Scopus, Elsevier, Thomson Reuters, ISI or its equivalent and CHED accredited journals shall be given incentive. An amount of **P30,000** shall be given to author or authors for every research output published in Scopus, Elsevier, Thomson Reuters or ISI-indexed journals or its equivalent. Publications in journals included in the Beall's list of predatory journals shall not be given incentive. On the other hand,**P15,000** shall be given to author or authors for every research output published in CHED accredited journals. Moreover, an amount of **P10,000** shall also be given for every patent and **P5,000** shall be given for every utility model approved, respectively. The respective amounts will be prorated among all authors. Only authors who are organic to Cebu Technological University are entitled. A copy of the published article or patent/utility model must be submitted prior to payment of the incentive. The incentive shall be taken from the GAA funds approved for the purpose.

Additional funding. Each FIRST PLACE winner of the categories identified during the University Research Congress shall be given additional MOOE release of **P25,000** for purchase of research supplies or any research related activities. Funding for this purpose is chargeable against GAA funds for research. Since the review usually takes place later in a particular year, this additional funding shall be charged from the budget of the next fiscal year.

Special incentives. A special incentive will be given by the University to any visiting Research Fellow from other Research or Academic Institution, provided, that any publication or output shall give due credit to CTU and a

partner personnel from CTU will be included as one of the authors of the article or articles published. The amount to be given to each visiting Research Fellow shall be **P10,000 per month** to constitute living allowance plus accommodation in the campus. For Fellows working in the Research Centers, the living allowance will be charged to System funds while those who will be working with the campus will charge the amount to the local funds of the campus.

IV. IMPLEMENTATION OF THE PROJECT

Implementation of projects may commence when the Council's endorsement is approved by the President. Proponents are encouraged to process preliminary requirements such as communications with partner organizations/ agencies and necessary permits, which may possibly cause project delay when not processed ahead.

Faculty members conducting research projects and are not claiming other professional services pay should be proportionately de-loaded in their teaching assignment as recommended by the Campus Directors and approved by the President.

Deloading is based on the role of the researcher in the project. A **project leader is deloaded 6 hours while the project staff is deloaded** 3 hours for every project, subject to availability of professors.

The researchers shall regularly render necessary reports to the R and D Office.

V. MONITORING AND EVALUATION

The R and D Chairman of the implementing Campus/ College shall conduct regular monitoring and evaluation of all activities relevant to the implementation of all funded projects. All study leaders must submit to the R and D Chairman of the Campus/College every last Wednesday of a quarter the Form 1 (Quarterly Project Accomplishment Report, Appendix I) for consolidation. They shall also submit Form 3 (Completion Report, Appendix III) upon completion of their respective project. The R and D Chairman should furnish Form 4 (Quarterly/Annual Accomplishment Report, Appendix IV) in hard and soft copies to the University Research and Development Director. The Quarterly Accomplishment Report must be submitted and/or presented every quarterly meeting of the R and D Council. The Annual Accomplishment Report must be submitted and/or presented during the first quarter meeting of the R and D Council of the succeeding year.

VI. DISSEMINATION

The Research Dissemination Fund is provided only for presenting STF, GAA funded research, Thesis or Dissertation and other research projects. Papers to be presented outside the country must be presented during the University Research and Development Congress and/or approved by the campus research committee. It shall be further presented to the international paper presentation screening and selection committee composed of selected R and D Chairmen, Research Center Directors and Research Director of the University for evaluation. Upon the

committee's recommendation, the paper shall be endorsed by the R and D Council sitting en banc to the University President and/or Board of Regents for approval.

Entitlements and Eligibility to Research Dissemination Fund

A successful applicant, referring to any organic researcher is entitled to Research Dissemination Fund equivalent to the total cost of presentation in local conference, forum, or scientific meeting and not to exceed P 100,000.00 for presentation outside the country, subject to COA rules and regulations.

The applicant can present different research papers more than once in a year. For presentations outside the country, a researcher can only present once unless full support is provided by other sponsoring agencies. In such case it can be considered an official business without financial support from the University.

As an additional eligibility requirement, the applicant must be a presenting author of an accepted paper in a local or international conference, forum or scientific meeting. Anybody from the roll of authors of the respective paper can present. No researcher shall present the same paper at the same level referring to local, national and international conferences, forum, or scientific meeting. However, the same paper may be presented by a co-author in a different conference, forum, or scientific meeting.

The researcher must apply for the grant not less than one month prior to the conference, forum, or scientific meeting for presentation outside the country, and maybe less than a month for local presentation. In no circumstances shall the research dissemination fund be awarded to a

researcher for a paper that was presented before the application of the research dissemination grant.

Application Procedure and Required Documents

The eligible researcher availing the Research Dissemination fund shall submit in writing the research dissemination fund application addressed to the University President and duly endorsed by the Vice President for Research and Development, Campus Director/Dean and Research Chairman. Attached with the application letter are the following documents:

- Publishable manuscript
- Certification from the Campus Research Chairperson that the paper has been presented during the University Research and Development Congress/approved by the campus research committee and funded through STF or GAA.
- Certification from the adviser endorsing the presentation of the paper is further required for thesis and/or dissertation while certification from the research chairman or center head shall be required for other research projects,
- Acceptance letter from the conference, forum, scientific meeting in case of presentation.
- Plagiarism check done either at the campus or university level.

For paper presentation outside the country, the following will be required further:

- Certification for funding support from the respective accounting office.
- Certification by the *International Paper Presentation Screening and Selection Committee (IPPSSC)* that

the paper has passed the University standards. Papers presented during the Annual University Research Congress with a rating of 80% and above shall be considered to have met the University standards hence no need to be evaluated by the committee. As a proof of rating, the evaluation score shall be attached.

- R and D Council resolution issued for approval of the University President or the Board of Regents.
- BOR approval

Incomplete documents shall not be accepted and processed for evaluation. All paper presentations will be charged to the University fund, unless a sponsoring organization is available, subject to the usual accounting and auditing rules and regulations.

In case the researcher fails to conduct the presentation of the paper, he/she must return the funds released for his/her research dissemination fund through writing. The letter must indicate the reasons for not complying with the research dissemination.

Other Terms and Conditions

After the presentation or return to the country, the faculty is required to submit liquidation reports based on standard government requirements including proof of attendance. Duly accomplished liquidation form together with receipts and proof of attendance must be submitted. The researcher must furnish the R and D Chairman/Dean/ Campus Director of his/her respective Campus/College a narrative report of the travel.

VII. PUBLICATION

While faculty in the University can submit their research outputs in journals of their choice, CTU also publishes scientific papers. The University **reserves the right to publish outputs of University-funded projects to sustain its publications**. To ensure diversity of authors, the University is open for submission of articles coming from other academic and research institutions.

Guide to Authors

The University Research Journals are open to authors who have original articles or short communications in the fields of agriculture and biotechnology; fishery and coastal management; environment and biodiversity; and technology and innovations. Articles submitted should not exceed 25 pages (including Tables and Figures), double space; while short communications should not exceed 5 pages. You may refer to the Council of Science Editors (formerly Council of Biology Editors) for items that are not covered in these guidelines.

Manuscript Preparations

1. Manuscript should be prepared containing the following: Title, Author(s) and affiliations, Abstract, Introduction, Materials and Methods/Methodology, Results and Discussion, Conclusion, Acknowledgment and Literature Cited. Citations should consist of articles published in ISI or peer-reviewed journals; minimize unpublished citations.

2. Manuscript should be in double space all throughout including captions of Tables and Figures on a short white bond paper (8.5 x 11) using one side only. Margins

should be 1 inch on all sides, typed in 12 font size, Times New Roman. Pagination should start from Title Page consecutively towards the end of the whole paper.

3. The Title Page should include the author's full names and affiliations, a running title of not more than 15 words, the author's postal address, email address, and telephone and fax numbers.

4. The Abstract should not exceed 250 words.

5. Leave three spaces before and after the major headings and two spaces before and after the subheadings.

6. Do not spell out numbers unless they are used to start a sentence.

7. Spell out acronyms or unfamiliar abbreviations when these are mentioned for the first time in text.

8. Give the scientific name of the species when it is first mentioned in the text and use the common name in succeeding references. Italicize scientific names.

9. Use the metric system only. Use abbreviations of units only beside numerals (e.g. 5 m); otherwise, spell out the units (e.g. meters from here). Do not use plural forms nor periods for abbreviations of units. Use the bar for compound units (e.g. 10 km/hr). Place a zero before the decimal in numbers less than 1 (e.g. 0.5).

10. When preparing Tables and Figures, consider the journal's printed page of 8.25 x 11.25 in and the reduction that will be necessary. Titles of Tables and captions of Figures should be short and understandable without referring to the text. Captions of figures should be typed double-spaced in a separate sheet.

11. Figures may be made of simple line drawings. For computer-generated graphics, it should be good quality

black and white photographs preferably Adobe Photoshop or Excel. Figures should be identified by writing at the back the figure number as they appear in the text and the author's name. Labels of Figure should be of a size that is still legible even after reducing size by as much as 50%.

12. Graphs should not be enclosed in a box and has no horizontal grid lines; while Tables have no vertical lines. Horizontal lines in the Table are only for the Table heading, top line and bottom line. Each Table should be labeled at the top with an Arabic numeral followed by the Table title. Footnotes may be inserted if explanatory material is needed and should be found below the Table.

13. Literature Cited should follow the APA format. Cite three or more authors as (first author et al., year), references in press as (author, in press) and unpublished references as (author, unpubl. data or author, pers. comm.). If two or more references are cited, arrange them by year (e.g. Alcala 1987; Asakawa 1990; Santos 1992).

14. If electronic articles are cited, the literature citation should be as follows:

Electronic Book

Rollin, BE. The unheeded cry: animal consciousness, animal pain, and science [Internet]. Ames (IA): The Iowa State University Press; 1998 [cited 2007 August 27]. Available from: http://www.netlibrary.com

Electronic Article

(Journal Publisher's Website)

Leng F, Amado L, McMacken R. 2004. Coupling DNA supercoiling to transcription in defined protein systems. Journal of Biological Chemistry [Internet]. [cited 2007 July 24]; 279(46):47564-47571. Available from http://www.jbc.org/cgi/reprint/279/46/47564

Electronic Article

(From On-line Journal)

Hong P, Wong W. 2005. GeneNotes: a novel information management software for biologists. BMC Bioinformatics [Internet]. [cited 2007 July 24];

Submission of Manuscripts

Submit one original and two clear photocopies of the manuscripts including Tables and Figures for review. Where the Figures include photographs, submit three original pictures. After the manuscript have been reviewed and accepted, send two copies of the revised manuscript and the originals of the Figures, together with electronic copy of the files. The electronic files should be in Windows compatible format preferably in Microsoft Word for the Text, Microsoft Excel for the graphs, and photos or figures in TIFF format.

Submission of manuscript shall include a cover letter stating that the manuscript submitted to the CTU Journals has never been published nor being considered for publication elsewhere by the time of submission to the journal. Also, a certification from all the co-authors stating that they are informed that the manuscript is being submitted for publication to the journal. Any lacking requirement is tantamount to the return of the manuscript to the author.

Send manuscripts to the following:

A. For Agriculture and Biotechnology papers

The Editor**, *Agriculture and Biotechnology***

c/o Office of the Director, Center for Research in Agriculture and Biotechnology (BIOTECH), CTU Barili Campus, Cagay, Barili, Cebu

B. For Fisheries related papers

The Editor***, Fisheries and Coastal Management***
c/o Office of the Vice President for Research and Development, CTU-Main Campus, 6000, Cebu City, Philippines. You may email your manuscript at www.ctu_research@yahoo.com

C. For Environment and Biodiversity related papers

The Editor, ***Environment and Biodiversity***
c/o Office of the Director, Biodiversity, Environment and Natural Resources Research Center, CTU Argao Campus, Lamacan, Argao, Cebu 6021

D. For Technology and Innovations related papers

The Editor***, Technology and Innovations***
c/o Office of the Director, Technology Research Center, CTU Main Campus, Cebu City, Philippines

Reprints

Authors shall be given free reprints equivalent to the number of authors of their published articles. Additional reprints may be ordered at P100.00 per copy when galley proofs are returned.

VIII. APPENDICES

Appendix 1

REPUBLIC OF THE PHILIPPINES
CEBU TECHNOLOGICAL UNIVERSITY
CAMPUS/COLLEGE:_____
(Address of the Campus/College)

Quarterly Project Accomplishment Report
(to be prepared by study leader/co-researcher)

For the Period: _____

Project Title:
Budget Granted:
Researchers:

Persons Involved	Source of Fund	Total Budg-et Released	Activities Undertaken	Accomplish-ment (%)	Remarks

Prepared by: *(Project Leader or Co-researcher)*

Reviewed: (Research Chairman)

Noted: (College Dean/Campus Director)

Appendix 2

REPUBLIC OF THE PHILIPPINES
CEBU TECHNOLOGICAL UNIVERSITY
(Address of the UDRD)

Office of the University Director for Research & Development

Research Monitoring Form
(to be filled by monitoring personnel)

Campus/ College.: _____
Quarter and Date: _____

Project Title	
Persons Involved	
Date Started	
Budget Source	
Budget Released	
Amount Used	
Amount Left	

Activities Undertaken (as reflected from the Gantt Chart)	Accomplishment (%)
1.	
2.	
3.	
4.	

Remarks

Monitoring Team: (CTU R and D Personnel)
Conforme: (Research Chair/Campus Director)

Appendix 3

REPUBLIC OF THE PHILIPPINES
CEBU TECHNOLOGICAL UNIVERSITY
CAMPUS/COLLEGE_____
(Address _____

Completion Report

Project Title	
Date Started	
Date Finished	
Budget Source	
Budget Released	
Amount Used	
Amount Left	

Summary of the Terminated Project

Prepared by:
(All Researchers/Date Prepared)

Reviewed:
(Research Chair/Date Reviewed)

Noted:
(Dean/Campus Director)

Appendix 4

REPUBLIC OF THE PHILIPPINES
CEBU TECHNOLOGICAL UNIVERSITY
CAMPUS/COLLEGE:
(Address of Campus/College)

Quarterly/Annual Report Form

I. **Research Highlights**	e.g. Awards etc. **Include person (s) involved, title of research, title of award, awarding body, title of activity, venue and date with appropriate documentation such as pictures properly labeled, etc.**
II. Research Dissemination of Output	e.g. Paper & Poster presentation Include person (s) involved, title of activity, title of research, venue and date with appropriate documentation such as pictures properly labeled, etc.
III. Attendance to Various Fora	Include person (s) involved, title of activity, venue and date with appropriate documentation such as pictures properly labeled, etc.
IV. Terminated Projects (funded, personal, students)	List of Terminated Projects with authors, total approved budget and total budget used
V. Published Paper	Include person (s) involved, name of journal of publication, title of research and date published.
VI. On- going Projects	Major accomplishment of the project with appropriate documentation such as pictures properly labeled, Tables, Figures or Charts
VII. Others	Any research related activities

Note: Softcopy of the report must also be submitted.

Prepared by:
(Research Chairman)

Noted:
(College Dean/Campus Director)

Appendix 5

Technical Evaluation of a Research Proposal

Title of Proposal: _____

Proponent/Presenter:_____

Criteria for Evaluation	Points	Score given	Remarks/ Comments
I. Track record/competence of the proponent to carry out the proposed research 1. Academic Qualification 2. Research experience in the field of specialization	5		
II. Technical Quality 1. Clarity of the objectives/ problems 2. Justification for the conduct of the project including literature review 3. Appropriateness and completeness of methodology 4. Time frame indicated and budget requirement is reasonable	15		
III. Significance Likely impact of the project (social, economic, environmental, etc.)	10		
IV. Presentation Ability of the proponent to convincingly and tactfully present the proposal and answer the questions asked by evaluators	5		
V. Publishability/ Patentability of expected output	5		
TOTAL POINTS	**40**		

Overall Impression (Kindly, check.)

[ ] Excellent Proposal
[ ] Very Good Proposal
[ ] Good Proposal
[ ] Fair/Not worth conducting

_____
Name and Signature of Evaluator

Appendix 6

Technical Evaluation of a Research Paper

Title of Paper:_____

Presenter/Author:_____

Criteria for Evaluation	Points	Score given	Remarks/Comments
I. Novelty The study has innovative features, clearly demonstrating the unique contribution it has made either theoretically (i.e. expansion of established ideas, provision of new insights to a scientific issue) or practically (i.e. new design/approach introduced)	**15**		
II. Significance of Findings/Results	**30**		
1. Contribution to countryside development	20		
2. Contribution to the discipline	10		
III. Methodology The methods and research design are appropriate to the research question. The study followed procedures to assure reliability and accuracy of data.	**25**		
IV. Presentation	**30**		
1. Written Report a. Organization b. Clarity, grammar and style 2. Oral Presentation a. Organization b. Use of visuals and stage deportment c. Answers to questions	 5 5 5 5 10		
Total Points	**100**		

_____

Signature Over Printed Name of Evaluator

Descriptive Ratings of Scores:

91 - 100	Best Paper
81 - 90	Good Paper
71 - 80	Moderately Good Paper
61 - 70	Slightly Acceptable Paper
60 or Lower	Not acceptable

Part 2

RESEARCH AND DEVELOPMENT AGENDA

INTEGRATED RESEARCH AGENDA
(2016-2020)

Rationale

Research plays a vital role in solving problems which may be economic, social, political, cultural, ecological, environmental, etc. that beset either in the local, national or the international communities. It is a well recognized fact that economic growth of a particular country is attributed to the generation and diffusion of knowledge and technologies due from research. Whether a particular country is a developing or under-developing one, realizes that advances in fundamental knowledge through research has paved the way in bringing the possibilities of becoming a more productive country. One of the frontiers of the country's progress is emanated from the roles the higher education institutions are mandated, one of which is research. Since our institution, Cebu Technological University (CTU) is a higher education institution, thus we are formulating a Five Year Research Agenda (2011 –2015) which is attuned to the mandates of the institution with the aim of generating new knowledge and technologies that could help alleviate the ever pressing problems in the local, national or the global community. Although CTU has a diversified flagship programs which are the sole basis in the formulation of the research agenda, thus integrated in nature, but these agenda are also aligned with the thrusts and priorities of the various funding agencies in the local, national or international such as CHED's NHERA (2009 –2018), DOST with the various councils (PCAARRD, PCIERD, etc.), NRCP, DA-BAR, SEARCA, EEPSEA, BFAR, DENR, PADI, ADB, CIDA, JICA, AUSAID, USAID, WORLD FISH and others.

Objectives

With the current situation our country is facing, the Cebu Technological University is strengthening its capability in research function to support basic science in order to:

1. Enhance the capacity in dealing with the socio-economic, environmental, ecological, cultural, political, etc. problems;
2. Create new knowledge and technologies which are globally competitive so as to reduce the gap on science and technology between developed and developing countries;
3. Participate actively in the solution to problems of global concerns, e.g. climate change; and,
4. Raise the quality of education in all levels for the improvement of one's well-being.

Brief History of the CTU

The institution has undergone series of conversions before the university status was attained on November 10, 2009 by virtue of Republic Act # 9744.

The school started originally as Cebu Trade School, the Manual Arts under the Cebu Normal School in 1911. The school was considered the earliest vocational school established in the country at the turn of the century. Through Presidential Proclamation No. 180 dated August 20, 1928 the school acquired its present site at M.J. Cuenco Avenue, Cebu City. In 1940, by virtue of Commonwealth Act No. 313, the name was changed to Cebu School of Arts and Trades. Then, on June 20, 1983 the school was converted into a chartered college known as Cebu State College of Science and Technology with satellite campuses strategically located in the whole province of Cebu. The in-

stitution had its primary philosophy of providing higher technological, professional, vocational instruction in science and technology, agriculture, fisheries and industrial fields as well as short term vocational-technical courses. It has promoted research, extension, advanced studies and progressive leadership in its areas of specialization during this period until the present time.

The satellite campuses. The different satellite campuses of the Cebu Technological University (CTU), being a multi-faceted institution, include the following campuses with their flagship programs:

CTU- Argao Campus	- Agriculture and Forestry
CTU- Barili Campus	- Agriculture
CTU- Carmen Campus	- Fisheries
CTU- Camotes Campus	- Fisheries
CTU- Daanbantayan Campus	- Fisheries
CTU- Moalboal Campus	- Fisheries
CTU- Danao Campus	- Industrial Trade
CTU- Tuburan Campus	- Polytechnic
CTU–Main Campus	- Trade and Industry

In the process of formulating the Integrated Five Year Research Agenda, the satellite campuses and colleges took part which were represented by the Campus Director and the Research Chair of each campus/college. The thrusts and priorities identified by each campus/ college are based primarily on their flagship programs in consonance with the thrusts and priorities of the national and international funding agencies such as the CHED's NHERA (2009 –2018), DOST with the various councils (PCAARRD, PCIERD, etc.), NRCP, DA-BAR, SEARCA, EEPSEA, BFAR, DENR, PADI, ADB, CIDA, JICA, AUSAID, USAID, WORLD FISH and others.

RESEARCH THRUSTS AND PRIORITIES

Agriculture, Forestry, Environment, and Natural Resources

The Research Agenda for AFENR sector is based on its suitability to the region as a commercially viable enterprise:

Fruit crops
Vegetables
Legumes and Root crops
Banana, Abaca and Cacao
Coconut and Oil Palm
Fancy Rice and Less Important Cereals
White and Yellow Corn
Pasture-Ruminants
Poultry
Forestry and Environment

a. Sustainable use of timber and non-timber products
b. Propagation techniques of important plant species
c. Species and Ecosystem Studies
d. Pollution monitoring in various ecosystems
e. Environmental Governance and Social Forestry

Research activities in these industry clusters encompass production and management, pest management, nutrient management, post harvest technologies, biotechnology, marketing, agricultural education as well as biodiversity and environmental monitoring.

Fisheries

A. Culture and seeding of economically important marine species

1. sea urchin
2. Abalone
3. Scallop
4. Grouper
5. Siganid
6. giant clam
7. white Shrimp
8. Kubao
9. Melo-melo
10. O ther commercially important marine and freshwater flora and fauna

B. Hatchery development of commercially important species
C. Assessment and Monitoring of Marine resources
D. Tourism impact on the marine resources
E. Value-added fishery products / product development
F. Bioactive components from marine products
G. Impact of climate change on fisheries biodiversity
H. Sustainable safe seafood products
I. Sustainable coastal management program
J. Sea ranching for sustainability of marine products
K. Tolerant species and other indicator organisms in the ecosystem
L. Impact of fisheries activities on the coastal ecosystem
M. Vulnerability assessment of marine resources and habitat
N. Economics of fisheries activities
O. Innovative Technology in capture fisheries, post harvest and aquaculture
P. Sustainable fisheries
Q. Valuation Studies of Marine Protected Areas

R. Limnological Studies
S. Systematics and Taxonomy
T. Marine Fisheries
   1. CPUE
   2. Length-weight relationship
   3. Fish sanctuaries
   4. Economic valuation of resources
   5. Gears construction and efficiency
   6. Recruitment patterns of resources
   7. Biodiversity
U. Aquaculture
   1. High valued organisms
   2. Reproductive biology
   3. Advance fishery technology formulation and adoption
   4. Feeds formulation and analyses
V. Postharvest
   1. Value-added fishery products
   2. Food safety and security
   3. Biomedical and chemical analyses

Education, Arts, and Sciences

A. Redirect and refocus both basic and applied researches pertaining to:
   1. Pre-Elementary Education
   2. Elementary Education
   3. Secondary education
   4. Special education
   5. Professional Education
   6. Technology livelihood education
   7. Ethics and values
   8. Instructional technology

9. Lifelong learning
10. Gender sensitivity in education
11. Development of instructional materials
12. Graduate tracer study
13. Distributive education and apprenticeship
14. Technology and livelihood Education
15. Business and Entrepreneurial technology
16. Information Technology
17. Industrial Technology
18. Home Economics and Livelihood Education
19. Teacher, Values and Peace Education
20. Demography and Population
21. Economics in Education
22. Linguistics, Literature, Communication, Philosophy and Culture
23. Good Governance, Politics and Public Administration
24. Cebuano art, pop culture and historiography
25. Pure/applied mathematics, human kinetics, and pure/applied sciences

B. Sustainable development of the region/nation:

1. Environmental and socio-economic impacts of local and global industrialization.
2. Environment-friendly programs, technologies and development.
3. Biodiversity
4. Ecotourism
5. Climate change
6. Renewable energy
7. Water pollution
8. Waste management (toxic or hazardous wastes; solid or liquid) for sustainability

C. Educational advancement of human resources on management practices and others:

1. Management of human and technology resources and technology–based service areas towards technology transfer and productivity.
2. Work values and institution building through scholarly endeavors and production of authentic educational services.
3. Implementation and evaluation of industrial and management standards in design, processes, and innovations towards total quality management.
4. Management and development of instructional innovations and community extension services.
5. Management and development of instruction, planning and innovation of products and processes of the technical and vocational–oriented leaders.
6. Management and development of instruction, planning and community development of the education leaders.
7. Providing/equipping managerial skills for executive leaders and non-teaching personnel in various offices towards effective and efficient public service.

D. On Quality and Excellence

Research on the improvement of quality of higher education (inputs, processes, outputs, outcomes):

1. Adequacy of Educational Inputs such as Programs, faculty, instructional materials, facilities and other resources

2. Effectiveness of delivery system of Instruction, Research and Extension Services in HEIs
3. Effectiveness of Implementation of Student Admission and Retention Policies in Public and Private HEIs
4. Educational Outcomes, vis-à-vis Educational Inputs and Processes
5. Strengths and Weaknesses of Graduate Education and Research (All Fields)
6. Capabilities of HEIs
7. Effectiveness of Implementation of Policies and Standards in Higher Education
8. Effectiveness Study of the Criteria or Standards of Different Accrediting Agencies vis-à-vis CHED's Policies and Standards
9. Cost-Effectiveness of Voluntary Accreditation
10. Impact of General Education Courses on the Total Development of the Student
11. Impact of HEIs Programs to Regional/ National Development

E. On Relevance and Responsiveness

Research on making higher education more relevant and responsive to the dynamically changing domestic and international environment:

1. Industry-Based Curricular Reforms and Enrichment
2. Mismatch between Graduates and Industry Needs and Other Employment Related Problems
3. Sectoral Manpower Supply and Demand

Studies (by Discipline)

4. Sectoral Tracer Studies of Graduates (by Discipline)
5. Effectiveness of Industry-Academe Linkage
6. Study on Students' Career Preferences
7. Effectiveness of Guidance and Counseling Services
8. Higher Education Systems in Different Countries

F. On Access and Equity

Research on broadening access of Higher education opportunities to deserving and qualified students:

1. Implementation of Different Scholarship Programs
2. Profile of Scholarship Beneficiaries
3. Student Cost by Program
4. Policy Research to Expand/Increase Financed Assistance to Poor but Deserving Students
5. Socio-Cultural Adaptation of Foreign Studies
6. Impact effectiveness of Alternative Learning System

G. On Efficiency and Effectiveness

Research on the optimization of social institutions and individual outcomes and benefits derived from the utilization of higher education resources:

1. Resources Allocation and Utilization in HEIs
2. Location, Mapping and Categorization of HEIs
3. Operating Costs of HEIs
4. Internal Efficiency and External Productivity

of HEIs
5. Networking Consortia of HEIs

Technology and Engineering

1. Electronic components, systems and design
2. Computer –aided instruction
3. Plant and Facilities Maintenance Program
4. Manpower needs of industries
5. Laboratory equipment and facilities for technology and engineering courses
6. Occupational Health and safety practices
7. Industry-based performance feedback and evaluation for on-the-job trainees
8. Marine Engineer demand and supply
9. Training or review centers efficiency
10. Mechatronics, Robotics and automation
11. Quality Standards
12. Solid, Liquid and Gas Waste Management
13. Nanotechnology
14. Energy Audit
15. Water Audit
16. Information and Communications Technology
17. Industrial Technology
18. Graduate Tracer Study
19. Technology Integration
20. Socio-technological systems
21. Green and Renewable Energy
22. Utilization and Production of Indigenous Materials
23. Environmental management
24. Industrial Systems and Design
25. Manufacturing and Process Engineering
26. Material Science and Engineering

27. Industrial Management
28. Natural Disaster Mitigation
29. Biotechnology
30. Graphics and Design
31. Tourism and Industry
32. Hospitality Management
33. Risk Management
34. Food Science

Graduate School

1. Management of Human and Technology Resources
2. Work Values and Institution Building
3. Instructional Materials
4. Blended learning
5. Industrial and Educational Management Standards
6. Instruction and Technology Innovation
7. Management of Technical and Vocational Instruction
8. Educational Planning Development
9. Effective and Efficient Organizational Management
10. Management of Environment and Safety
11. Productivity and Global Competitiveness
12. Industry-Academic-Government
13. Technology Assimilation
14. Information System
15. Information Technology
16. Computing
17. Public Administration
18. Quality Assurance

19. Quantitative Management
20. Adopting all agenda of different colleges, research centers and campuses.

University Research Centers

1. **Integrated Coastal Resource Management (ICRM)**
   i. Biodiversity assessment and enhancement
   ii. Reproductive Biology
   iii. Climate Change impacts, mitigation and adaptation
   iv. Resource Utilization and Ecosystem impacts
   v. Fishery technology and alternative livelihood
   vi. IEC networking in conservation works
   vii. Socio Economics
   viii. Eco– Tourism
2. **Center for Limnological and Mariculture Studies (CLMS)**
   i. Biodiversity
   ii. Management and Conservation
   iii. Monitoring and Evaluation
   iv. Socio-cultural and Economic Studies
   v. Materials Production and Dissemination
   vi. Monitoring and Evaluation of Marine Areas
   vii. Water Dynamic, Socio-Economic and Cultural Activities
   viii. Biogeography and location Mapping for Mariculture Activities
   ix. Aquaculture Development Linkages
   x. Mariculture Studies of Marine flora and fauna using Environment Friendly Technologies
   xi. IEC Material Productions and Disseminations

3. Biodiversity, Environment, and Natural Resources Research Center (BENRC)

i. Biodiversity

1. Single and Multispecies Studies
2. Climate Change Impacts
3. Ecosystem Dynamics, others

ii. Environmental Studies

1. Assessment and Impact Studies
2. Pollution Monitoring
   a. Coastal Environment
   b. River Systems
   c. Agro-ecological Systems
   d. Urban Ecosystems

iii. Natural Resources Management and Utilization

1. Forest & Plantation Establishment
2. Nursery and Plant Propagation Techniques
3. Sustainable Use of Timber and Non-Timber Products
4. Marketing of Forest Products, others

iv. Social Science Investigations

1. Governance Issues in Conservation
2. Livelihood Studies in Forest & Upland Communities
3. Gender Roles in Conservation
4. Conservation Education, others

4. Biotechnology Research Center (BRC)

i. Agriculture Biotechnology

1. Crop Science

a. Tolerance to Environment
b. Stress

c. Biosynthesis at the Molecular Level
d Gene Transformation
e. Gene Mapping
f. Fermentation and IMO

2. Animal Science

a. Molecular Biology of Reproductive Maturation
b. Nutrition and Health Management
c. Genetic Improvement

ii. Bio-Resource Technology

a. Pre-Pilot scale Production of Commercially Valuable Bio-Products
b. Taxonomy of Plants, Animals and Micro organism specially Fungi and Nematodes
c. Developing throughput Biological Assays
d. Natural Products

iii. Food Biotechnology

a. Upgrade the Processing, Preservation and Quality of Fermented Food
b. Food Safety and Risk Assessment
c. Food chemistry
d. Starter Culture Technology

iv. Natural Resource Engineering

a. Evaluation of Land and Water Usage on Soil and Water Quality
b. Development of Prediction Models

To ensure that the technologies developed will reach the desired end users and to ensure strong linkage with various stakeholders, Rural Development and Communication Service Unit will also be established to perform technology dissemination and technology transfer to rural

communities in the Philippines. The unit works closely, acting as bridge between the center and the local communities, to undertake technology transfer, demonstration and assimilation, as well as human resource development to improve the standard of living and household earnings for village. They are also in-charge in fostering linkages for fund sources or collaborative researches among others.

Commitment

The commitment is hereby established to implement and abide by the provisions of the CTU Research and Development (R and D) Manual and Agenda.

ROSEIN A. ANCHETA, JR., ASEAN P. E., D. M., Ph. D.
SUC President IV

Committee on Form and Style

Chairperson	:	**Dr. Ariel L. Ramos** Argao Campus
Members	:	**Prof. Berthelia M. Sunga** Tuburan Campus
		Dr. Angen May F. Charcoz Tuburan Campus
		Prof. Jihan S. Comeros Carmen Campus
		Prof. Alma C. Valendez Main Campus
Coordinator	:	**Dr. Ledesma R. Layon** CTU, Administration and Finance

Research and Development
Services Directory

Dr. Rosein A. Ancheta, **Jr.**
University President

Dr. Gloria G. Delan
VP– Research and Development

Dr. Hemres M. Alburo
Director, R and D Office

Dr. Rachel Luz V. Rica
Director, Integrated Coastal Resource Management Center

Ms. Christine M. Corrales
EPS I

Mr. Raamah C. Rosales
Research Assistant (ICRM)

Ms. Irene A. Monte
Admin. Aide I

Campus Directors/College Deans, R and D Chairpersons, and Research Center Heads

Campus/ Research Center	Campus Director/ College Dean	R and D Chairperson/ Center Head
Argao	Dr. Juanita P. Pinote	Prof. Rosalyn P. Alburo
Barili	Dr. Genes M. Pasaje	Dr. Pet Roey L. Pascual
Carmen	Prof. Servando V. Bernante	Dr. Monina C. Babaran
Daanbantayan	Dr. Levy S. Lepon	Prof. Rowena P. Dato-on
Danao	Dr. Rose Mary L. Almacen	Dr. Christeodoflor A. Ramos
Main Campus	Dr. Januario L. Flores	
Main-CAS	Dr. Edwin A. Pilapil	Prof. Simeon C. Bernados, Jr.
Main-COEd	Dr. Cecilia Elena P. delos Reyes	Dr. Renissa S. Quiñones
Main-COEng	Dr. Nolasco K. Malabago	Engr. Maria Elena A. Aparente
Main-COT	Dr. Marde T. Ponce	Dr. Melanie M. Himang
Main-Graduate School	Dr. Rebecca DC. Manalastas	Dr. Celbert M. Himang
Moalboal	Dr. Romeo G. Pableo	Dr. Rosita D. Bagsit
San Francisco	Dr. Serapion N. Tanduyan	Prof. Jonita V. Literatus
Tuburan	Dr. Pedrito C. Pontillas	Dr. Helen C. Brigoli
ICRM		Dr. Rachel Luz V. Rica
REC		Dr. Cecilio S. Baga
TRC		Dr. Corazon P. Macachor
BioTech		Dr. Pet Roey L. Pascual
BENRC		Prof. Rosalyn P. Alburo
CLMS		Dr. Serapion N. Tanduyan
Climate Change		Prof. Mydah F. Kabingue
Engineering and Technology		Engr. Edgar C. Ambos

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Cebu Technological University – Main Campus
Main Campus, Cor. M.J. Cuenco Ave., R. Palma St., Cebu City
url: http://www.ctu.edu.ph email: information@ctu.edu.ph
Tel. No. (032) 256-1537 Fax No. (032) 256-1181

EXCERPT FROM THE MINUTES OF THE 3rd QUARTER REGULAR BOARD OF REGENTS' MEETING HELD ON AUGUST 09, 2016 AT THE COMMISSION ON HIGHER EDUCATION, 4/F HIGHER EDUCATION DEVELOPMENT CENTER BLDG., PRES. C.P. GARCIA AVENUE, UP CAMPUS, DILIMAN, QUEZON CITY

Resolution No. 43 series 2016

"Resolution Approving the Research and Development (R &D) Manual and Agenda for Research and Development"

Whereas, RA No. 9744, otherwise known as the "CTU Charter" and RA No. 8292, also known as the "Higher Education Modernization Act of 1997," which jointly serve as the governing charters of the University, provide the CTU Board of Regents specific powers and duties in addition to the general powers of administration granted to the board of directors of a corporation under existing laws;

Whereas, Section 7@ (a) of RA 9744 otherwise known as the Act Converting the Cebu State College of Science and Technology System in the City of Cebu and all its Satellite Campuses located in the Province of Cebu into a State University to be known as the Cebu Technological University (CTU), provides one of the powers granted to the Board such as to promulgate rules and regulations not contrary to as may be necessary to carry out the purposes and functions of the University;

Whereas, the Research and Development (R&D) Manual and the Agenda for Research and Development provide the general guidelines and operation of the university in conducting researches;

Whereas, after careful scrutiny of the Research and Development (R &D) Manual and the Agenda for Research and Development presented, the following improvements were suggested by the CTU Board of Regents:

- An incentive scheme shall be given to researchers whose works would be published in accredited research journals or those which outputs have approved patent, namely:
  - P15, 000 – for every research output published in CHED accredited journals;
  - P10, 000- for every approved patented work; and
  - P5, 000- for every utility model.
- The composition of the Research and Development Council should include all the vice-presidents (VPs) of the university namely: Vice-President for Academic Affairs, Vice-President for Administration and Finance and the Vice-President for Production, Extension and Business Affairs (PEBA); and
- Inclusion of provision/s for "Development" in consonance with the university's research agenda as it should be aptly called ***"Research and Development (R&D) Manual and Agenda for Research and Development".***

Whereas, on motion by Regent Amelia Medalle duly seconded by Regent Victor Villaganas, the CTU Board of Regents **UNANIMOUSLY APPROVED** the Research and Development (R&D) Manual and Agenda for Research and Development;

NOW THEREFORE, BE IT RESOLVED, AS IT IS HEREBY RESOLVED THAT THE CTU BOARD OF REGENTS APPROVED the Research and Development (R&D) Manual and Agenda for Research and Development.

CERTIFIED TRUE COPY
CTU-OFFICE OF THE BOARD SECRETARY
MIRANONA M. FLORES
BOARD SECRETARY
DATE: 11/8/16 TIME: 10:30am

Republic of the Philippines
Cebu Technological University – Main Campus
Main Campus, Cor. M.J. Cuenco Ave., R. Palma St., Cebu City
url: http://www.ctu.edu.ph email: information@ctu.edu.ph
Tel. No. (032) 256-1537 Fax No. (032) 256-1181

EXCERPT FROM THE MINUTES OF THE 3rd QUARTER REGULAR BOARD OF REGENTS' MEETING HELD ON AUGUST 09, 2016 AT THE COMMISSION ON HIGHER EDUCATION, 4/F HIGHER EDUCATION DEVELOPMENT CENTER BLDG., PRES. C.P. GARCIA AVENUE, UP CAMPUS, DILIMAN, QUEZON CITY

Page 2 of Resolution No. 43 series 2016 "Resolution Approving the Research and Development (R &D) Manual and Agenda for Research and Development"

Approved:

HON. MINELLA C. ALARCON
CHED Commissioner
BOR Chairperson – Designate/Presiding Officer

HON. ROSEIN A. ANCHETA, JR.
University President IV/Vice-Chair

HONORABLE MEMBER
Chairman, Senate Committee on Education, Arts and Culture, Member

HONORABLE MEMBER
Chair, Committee on Higher and Technical Education, Member

HON. EFREN CARREON
Regional Director, NEDA RO7
Member

HON. EDILBERTO L. PARADELA
Regional Director, DOST RO7
Member

HON. AMELIA Y. MEDALLE
President, Federation of the CTU System Faculty Association, Member

HON. SHALEEN JEAN E. REVECHE
President, Federation of Student Governments
Member

HON. VICTOR D. VILLAGANAS
President, Alumni Federation Association, Member

HON. HERMINIO P. NAVARRO
Private Sector Representative
Member

HON. PHILIP N. TAN
Private Sector Representative
Member

ATTESTED TRUE AND CORRECT:

MIRA NONA M. FLORES
Secretary of the Board of Regents

CERTIFIED TRUE COPY
CTU-OFFICE OF THE BOR SECRETARY
MIRA NONA M. FLORES
BOARD SECRETARY
DATE: 11/18/16 TIME: 10:22am

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