How-To Article

How to Get Started on Research

Gloria P. Corpuz

Only a few laboratories are equipped to do biochemical research. Most research is done in universities as well as institutions under the Department of Science and Technology (DOST), and specialized research institutions such as SEAFDEC and IRRI. In some universities, research is usually done in addition to teaching, where the faculty are required to engage in both activities as prerequisites for promotion.

The inclusion of biochemistry as a core course in the medical, biological, chemical and agricultural sciences has led to a shortage of teachers specially trained in biochemistry. A recent survey (1) has revealed that a great number of biochemistry teachers are MDs, chemists, pharmacists, biologists and only a handful have a PhD or MS degree in biochemistry, chemistry or agricultural chemistry. The same survey showed that there are 18 PhDs actively engaged in both research and education. Most biochemistry teachers are burdened with other courses like general, organic and inorganic chemistry. With these teachers barely having time to finish checking hundreds of bluebooks before the next exam, the big question is: How can they be encouraged to do meaningful research? How can they get started?

This article provides would-be researchers with some tips.

The basic ingredient. Getting started on a venture like research takes a lot of guts and imagination, but it can be done. The first step is taking stock of yourself as researcher, the most important ingredient. As a would-be reseacher, you may feel stumped by the fact that most researchers are equipped with an M.S., Ph.D., M.D., or a B.S. with several years of research experience. You shouldn't be; you will soon find out that neither a degree nor experience is the sole determinant for good research.

When asked by friends to help them prepare project proposals I always ask them if they are prepared to go into a field of selflessness and sacrifice. The rewards of doing research are few and far between. To engage in biochemical research one has to be committed.

Once the determination to do science becomes foremost in your mind, all obstacles will be easier to hurdle.

Scope of work. Identification and scope of the topic you want to work on is the next step. At one time or another every biochemist must have nurtured a pet project. However, the immediate needs of your institution oftentimes dictate the direction of research. Such is the case with specialized research institutions like the International Rice Research Institute (IRRI), UP-Institute of Plant Breeding (IPB), Southeast Asian Fisheries Development Center (SEAFDEC), Philippine Coconut Authority Agricultural Research Center (PCA-ARC), and others. If you work in an agricultural college, you are naturally expected to do research related to agriculture. But whether it be agriculture, marine science, or medicine, you should be innovative and realistic. You should be able to present a definite solution to a definite problem in a reasonable time frame. One major consideration in choosing a research topic is practicality and attainability of objectives. "Every problem has a solution; it just takes others longer to figure it out" is a researcher's motto. The extent of the solu-

The author is Senior Research Assistant of the Marine Science Institute, UP Diliman. She is presently stationed at the Toxinology Research Laboratory of the Department of Biochemistry and Molecular Biology, College of Medicine, UP Manila.

tion obviously depends on the availability of research facilities, but quality research need not be expensive. Experiments need not be elaborate. Instruments need not be top-of-the-line. What is vital is that they work when they are needed.

Funding agencies: Setting up a research lab from scratch may seem to be a gigantic task. The first limitation that may come to mind is budget. In case your institution cannot help with the financing, getting somebody interested in the project funded is your best bet. Knowing where to ask for funds is easy but having your project funded is another matter.

There are several local and foreign funding agencies which you can tap (2). Some of them are listed below. Each funding agency has its own research priorities. In the Philippines the direction of research is laid out in the policies of the DOST (**see Dr. Arizabal's interview**). There are five sectoral planning councils under the DOST whose primary task is to give grants-in-aid, coordinate and monitor researches in order

LOCAL FUNDING AGENCIES

A. **Sectoral councils under DOST**
Executive Director
(PCAFRD, PCAMRD, PCASTRD, PCHRD,PCIERD)
DOST Complex
Bicutan, Taguig, Metro Manila

PCAFRD - Phil. Council for Agriculture and Forestry Research & Development
PCAMRD - Phil. Council for Aquatic and Marine Research & Development
PCASTRD - Phil. Council for Advanced Science & Technology Research & Development
PCHRD - Phil. Council for Health Research & Development
PCIERD - Phil. Council for Industry & Energy Research & Development

B. **Collegial body under DOST**
President
National Research Council of the Philippines
P. Valenzuela Hall
Bicutan, Taguig, Metro Manila

C. **POPCOM**
Chairman, Board of Commissioners
Commission on Population
Welfareville Compound
Mandaluyong, Metro Manila

D. **UP College of Medicine- Committee on Research Implementation and Development**
(UPCM-CRID) for UPCM Faculty

E. **UP Office of Research Coordination**
(each UP unit has its own ORC)

F. **Philippine Coconut Authority**
Executive Director
Philippine Coconut Authority
Don Mariano Marcos Avenue
Diliman, Quezon City

G. **Filipinas Foundation, Inc.**
Executive Director
Filipinas Foundation, Inc.
4th Floor, MSE Bldg., Ayala Avenue
Makati, Metro Manila

H. **A.I.M. Scientific Research Foundation, Inc.**
Manager for Development
A.I.M. Scientific Research Foundation
A.I.M. Building
Paseo de Roxas, Makati, Metro Manila

I. **Andres Soriano Foundation, Inc.**
Officer-in-charge
Andres Soriano Foundation, Inc.
6th Floor, A.Soriano Building
8776 Paseo de Roxas
Makati, Metro Manila

FOREIGN FUNDING AGENCIES

For information materials and application forms, communicate with the following:

A. **International Foundation for Science (IFS)**
IFS Secretariat
Grev Turegatan 19
S-114 38 Stockholm
Sweden

B. **International Development Research Center (IDRC) Canada**
I D R C
Tanglin P.O. Box 101
Singapore 9124
Republic of Singapore

C. **Australian Development Assistance Bureau (ADAB)**
Sec. Anthony S. Connor
Development Assistance, ADAB
Australian Embassy
China Bank building
Paseo de Roxas, Makati, Metro Manila

D. **Japan International Cooperative Agency (JICA)**
Mr. Hiroyuki Arai
c/o Embassy of Japan
3rd Floor, L.C. Building 375
Buendia Avenue Extension
Makati, Metro Manila

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E. **Japan Society for the Promotion of Science (JSPS)**

Tsutomu Mizota
Head, Regional Interchange Division
JSPS
Jamoto Buyilding
5-3-1, Kojimachi, chiyodo-ku
Tokyo 102, Japan

F. **United Nations Development Program (UNDP)**

Mr. Euan Smith
United Nations Development Program
Resident representative
7th Floor, NEDA at Makati Bldg.
106 Amorsolo St., Legaspi Village
Makati, Metro Manila

6. **United States Agency For International Development (USAID)**

Science Program
Mr. Anthony M. Schwarzwalder
Director, USAID Mission
Ramon Magsaysay Building
Roxas Blvd., Metro Manila

H. **United Nations Educational Scientific and Cultural Organization (UNESCO)**

UNESCO Regional Office for Science and Technology for Southeast Asia
Jalan Thamrin No. 14, Jakarta 10,
Indonesia

I. **World Health Organization (WHO)**

Dr. Hiroshi Nakajima
Regional Director

WHO Building, United Nations Avenue
Manila

J. **International Atomic Energy Agency (IAEA) Austria**

The Chief
Division of Public Information
International Atomic Energy Agency
Wagramerstrasse 5, P.O.Box 100
A-1400 Vienna, Austria

to utilize more effectively the meager resources of the Philippines. The National Research Council of the Philippines (renamed Philippine National Science Society or PNSS), a collegial body under the DOST, is mainly responsible for giving grants for basic research (**see Dr. Guerrero's interview**). Identify which council your project is most likely to be classified under. Then write to the council for the necessary application forms and guidelines. Take note of deadlines for grant applications and make sure all required information is provided. This will save time for both you and the referees.

Proposal requirements: Different agencies have different requirements for research proposals. Some require the submission of a capsule proposal or preproposal (**inset 2**) for preliminary evaluation and a detailed proposal(**inset 3**) at the latter stages of evaluation. Basically a research proposal should include the following items: title, significance, objectives, methods, implementing schedule and budgetary requirements. DOST Form IC is a general form used by all sectoral planning councils for detailed research proposals. Guidelines for accomplishing this form are the same but the technical descriptions vary depending on the expected output and impact of the information generated by the research on the end-users. Foreign funding agencies have more or less the same basic requirements for research proposals. A compilation of guidelines for the preparation of research proposals for foreign funding agencies is available from the UP Institute of Plant Breeding (3).

Budgeting: With the limited funds available for research, some funding agencies have set a budget range within which research proposals should fit. Some are a bit unrealistic considering the fast rate of inflation (NRCP suggests a budget within the range ₱80,000 - ₱100,000). When confronted with the formidable questionnaire on budgetary requirements, you may be tempted to forget the whole idea of presenting a project proposal. After all, you are not an accountant. Eventually, though, you decide to buckle down to the business of making the budget because you realize that this could make or break the proposal.

The budget is the lifeblood of the project. A well-planned budget will see you through the completion of the project. The first thing to do is to obtain a copy of the latest salary scale for personnel in the target agency. Then scout around for the latest catalogs and price lists for the required equipment and supplies. Consult seasoned researchers about reliable brands and suppliers. If you have your timetable you can proceed to fill up any form, no matter how complicated.

Form No.:P-1A	Philippine Agriculture & Resources Research System CAPSULE RESEARCH PROPOSAL	1) Endorsed by: Name: Designation: Agency:

To be filled up by PCARRD

2) Title

3) Type Program Project Study

4) Research Thrust

5) Commodity Group/Individual Commodity Rank

6) Priority Area(s) Rank

7) Significance of the Proposal

8) Objectives

9) Implementing Agency
10) Research Station(s)
11) Cooperating Agency(ies)
12) Research Leader(s) (Name, Major Field, Highest Degree Obtained)

13) Implementing Schedule
Start Date Completion Date Duration

14) Major Activities/Methodology

15) Source of Fund _____

16) Proposed Budget/Quarter

Item	1Qtr	2Qtr	3Qtr	4Qtr	TOTAL 1st Year	TOTAL COST
1. Personnel Services						
2. MOE						
3. Equipment						

References

1. Mendoza EMT. Biochemistry in the Philippines: Status and Directions. Philippine Biochemical Society Annual Convention. UP College of Medicine, Manila. October 24, 1987.
2. Directory of Local and International Foundations. Philippine Council for Health Research and Development, National Science and Technology Authority, Manila. 1984.
3. Guidelines for the Preparation of Research Proposals for Foreign Funding Agencies - A Compilation. Institute of Plant Breeding, College of Agriculture, UP at Los Banos, College, Laguna. July, 1987.

NATIONAL RESEARCH COUNCIL OF THE PHILIPPINES
(Pambansang Sanggunian sa Pananaliksik ng Pilipinas)
P. Valenzuela Hall, Bicutan, Tagig, Metro Manila

CHECKLIST FOR NEW PROJECT PROPOSALS

1. THE PROJECT
   a. Proposal to be submitted in four (4) copies should be in accordance with NRCP Form 2 duly signedby proper authorities as indicated.
   b. Annexes
      1. Annex "A" - Project Line Item Budget, detailed. (Indicate in separate columns proponent's counterpart and collaborating agency funds, if any.)
      2. Annex "B" - Statement of duties of each of the needed personnel.

2. ATTACHMENTS (for new researchers only)
   a. Curriculum vitae of Project Leader and Co-Researcher
   b. Certification of latest appointment of Project Leader and Co-Researcher.

NRCP Form 2
Revised Dec. 1981

Received at NRCP: Date:
By:

NATIONAL RESEARCH COUNCIL OF THE PHILIPPINES
(Pambansang Sanggunian sa Pananaliksik ng Pilipinas)
P. Valenzuela Hall, Bicutan, Tagig, Metro Manila

Part I. RESEARCH PROJECT PROPOSAL

1. PROJECT TITLE: _____

2. PROJECT PROPONENT: _____
(Name and Degree)
_____
(Business Address)
_____
(Home Address and Tel. No.)
_____
(Present Position)

3. COOPERATING AGENCIES, if any, on this project: _____
_____
(Place where research will be undertaken)

4. OBJECTIVES: (State whether the project proposal is a new idea or a continuation of, or related to, previous research work/s undertaken by the proponent/s and what the proponent/s aim to discover or establish.)

5. SIGNIFICANCE OF THE PROJECT: (Importance to science and/or technology, in what way would the research, if successful, contribute to the increase of national income and who, or what sectors, can possibly benefit from the research project.)

6. PRESENT STATUS OF THE PROPOSED PROJECT:
   6.1 Previous work done on this project. Describe briefly any work you have done to date which is particularly pertinent.

   6.2 Results obtained by others. Summarize important results to date obtained by others on this problem, citing publications.

7. Work Plan

7.1 Procedure/Methodology in sufficient detail (If possible, present research design, schedules/questionnaires to be used, sampling procedures/techniques, etc.)

7.2 Timetable of research (State duration of the project and estimated time to be spent for the various phases of the project, and description of each phase.)

II. Financial Requirements

Details	Totals	Requested from NRCP	Proponent's Contribution	Cooperating agencies' counterpart
I. Personnel Services: (Enumerate number, statement of duties and position title of personnel needed and the corresponding salaries and/or wages. Include honoraria or additional compensation for personnel on part-time basis, consultants, etc.)				
1. Salaries	_____	_____	_____	_____
2. Honoraria	_____	_____	_____	_____
Total for Personnel Services	_____	_____	_____	_____
II. Maintenance and other Operating Expenses: (Include list of supplies and estimated cost according to source of funding)				
1. Travelling*]	_____	_____	_____	_____
2. Supplies and Materials	_____	_____	_____	_____
3. Sundries (miscellaneous, including cost of contractual services, cost of electronics, data processing, printing, etc., according to source of finding**]	_____	_____	_____	_____
Total for Maintenance and other Operating Expenses	_____	_____	_____	_____
III. Equipment: (Include list of equipment and estimated cost and state if locally available or to be improved; justification for its use in the project if not available in the institute or agency)	_____	_____	_____	_____
Total for Equipment	_____	_____	_____	_____
IV. Special Purposes: (Include consultant fees, etc.)	_____	_____	_____	_____
TOTAL COST OF PROJECT:	_____	_____		

*] Breakdown for requests exceeding P2,000.00. For travel expenses, indicate places to be visited, frequency, tentative schedule, purpose and estimated cost of visit.

**] Breakdown for requests exceeding P1,000.00.

PART II. ADDITIONAL INFORMATION

I. Research Experience:

Statement as to other research activities of the proponent. Indicate in what capacity; state whether receiving grants from other agencies; if so, give title of said research project or projects, and amount of grant/s including honorarium.

II. References: