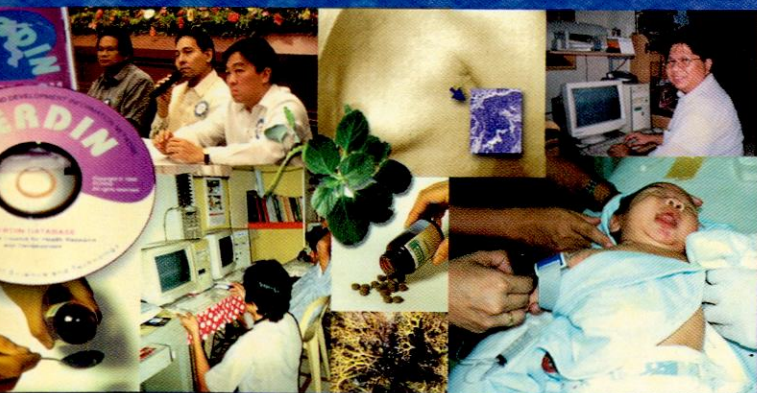




# 2002 PCHRD ANNUAL REPORT



PCHRD AT

20



## TABLE OF CONTENTS

|  |           |
|--|-----------|
| <b>The Council</b>   | <b>1</b>  |
| <b>Officers</b>  | <b>1</b>  |
| <b>Organizational Structure</b>  | <b>2</b>  |
| <b>Messages</b>  |           |
| From the DOST Secretary  | 3         |
| From the Executive Director  | 4         |
| <b>Highlights</b>  |           |
| PCHRD @ 20: Assessing bioinformatics' role<br>in health biotechnology            | 6         |
| Setting up the Philippine National Health Research System                        | 6         |
| I. Health Gains from Research Investments  | 7         |
| II. Bringing Research Results to the Market                                      | 9         |
| III. Strengthening Research Information Services                                 | 10        |
| <i>Utilizing ICT Tools for Community Development</i>                             | 12        |
| <i>Communicating Research through Techno-Fairs</i>                               | 13        |
| <i>Disseminating Health Information through the<br/>    Tri-media and Online</i> | 15        |
| IV. Keeping the Human Resource Active and Productive                             | 17        |
| <b>PROFILES</b>  | <b>21</b> |
| <b>@ PCHRD Homepage</b>  | <b>21</b> |
| <b>Financial Report</b>  | <b>22</b> |
| <b>APPENDICES</b>  | <b>23</b> |

*The Philippine Council for Health Research and Development's Web site at [www.pchrd.dost.gov.ph](http://www.pchrd.dost.gov.ph) contains additional information about the Council's research projects and programs, online databases, scholarship grants and incentives, health research ethics, publications, summary proceedings, news releases and events, bid procurements and job opportunities.*



## 2002 PCHRD ANNUAL REPORT



*The Philippine Council for Health Research and Development (PCHRD) is one of the five councils of the Department of Science and Technology (DOST). It is a forward-looking, partnership-based national body responsible for coordinating and monitoring research activities to improve the quality of health and well-being of Filipinos.*

***To provide and strengthen the scientific and technological base for health care delivery in the country:***

- *We generate, through research, appropriate, safe and effective health technologies and innovative strategies for health service delivery;*
- *We develop research capability to ensure the continuous supply of health technologies;*
- *We broker technologies to ensure technology adoption, commercialization, and use;*
- *We catalyze the utilization of research results in program and policy development.*
- *Ultimately, we hope to promote the well-being and quality of life of Filipinos as well as enhance the competitiveness of the country's health industry.*

## DIRECTORY OF OFFICIALS

### Governing Council

#### *Chairman*

Dr. Estrella F. Alabastro  
Secretary  
Department of Science and Technology

#### *Vice Chairman*

Dr. Manuel A. Dayrit  
Secretary  
Department of Health

#### *Ex Officio Members*

Ms. Elsa M. Bayani  
Executive Director  
National Nutrition Council

Dr. Alfredo T. Ramirez  
(November 1999 - 2002)  
Chancellor  
University of the Philippines  
Manila

Dr. Gemiliano D. Aligui  
Executive Director  
Philippine Council for Health Research  
and Development

#### *Members*

Dr. Ernesto O. Domingo  
Fellow  
Philippine Society of Gastroenterology

Dr. Abraham F. Pascual  
President  
Pascual Laboratories, Inc.

Dr. Josefina L. Poblete  
Dean, College of Medicine  
Cebu Institute of Medicine

Dr. Warlito C. Vicente  
Dean, College of Medicine  
Davao Medical School Foundation

#### *CHED Representative*

Dr. Rodolfo de Guzman  
Chairman  
Technical Panel for Health  
Profession Education  
Commission on Higher Education

#### *Technical Directors*

Dr. Jane C. Baltazar  
Dr. Bonifacio C. Dazo  
Dr. Adriano V. Laudico  
Dr. Fernando S. Sanchez, Jr.  
Dr. Wilfred Tiu  
Dr. Victor C. Valenzuela

#### *Executive Director*

Dr. Gemiliano D. Aligui  
Tel. no. 837-2942  
gdla@pchr.dost.gov.ph

#### *Division Heads*

Ms. Emelita N. de Castro  
Finance and Administrative Division  
Tel. No. 837-7536  
enc@pchr.dost.gov.ph

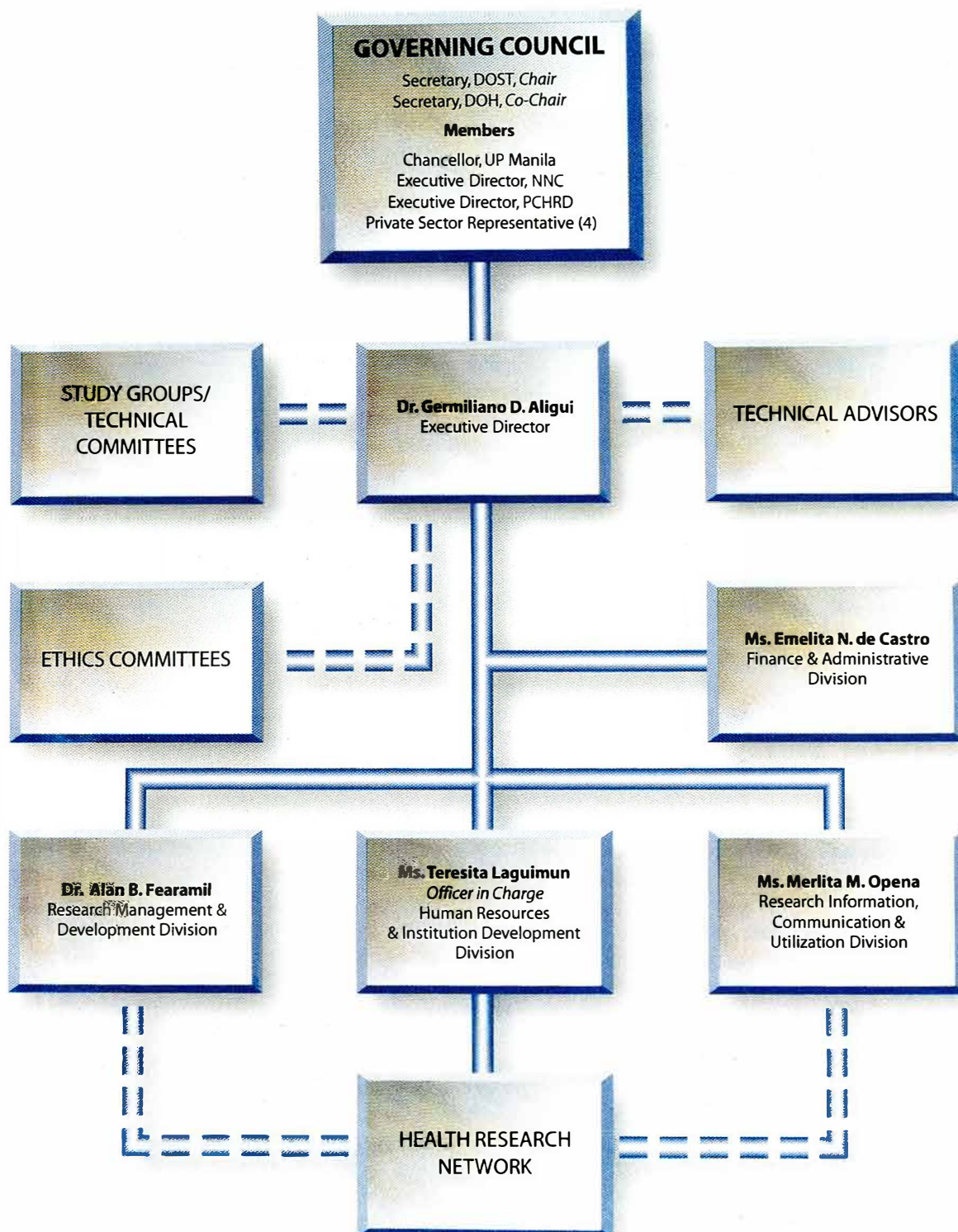
Dr. Alan B. Feranil  
Research Management and  
Development Division  
Tel. No. 837-7535  
alan@pchr.dost.gov.ph

Ms. Teresita O. Laguimon  
Officer-In-Charge  
Human Resources and Institution  
Development Division  
Tel. No. 837-7537  
tess@pchr.dost.gov.ph

Ms. Merlita M. Opeña  
Research Information, Communication  
and Utilization Division  
Tel. No. 837-7537  
mmo@pchr.dost.gov.ph



## PCHRD ORGANIZATIONAL CHART



# Message



I commend the Philippine Council for Health Research and Development, as it celebrated its 20th year, for its unwavering commitment to advance the cause of health research and development in the Philippines despite seemingly tall odds.

PCHRD's pioneering work and leadership in health R and D has been reaffirmed by its partners. The ongoing work of establishing the Philippine National Health Research System, in line with the global movements in health research, places PCHRD in a lead role in the crafting of a unified research agenda, to optimize the use and ensure equity of distribution of scarce resources.

As evidenced by this Annual Report, PCHRD continues to support research projects, whose outputs are transformed into tangible products and services--from fortified foods, drugs from medicinal plants, to clinical practice guidelines--to benefit the Filipinos.

PCHRD's capacity-building program, among others, its twinning program, helps develop a secure human resource base that will sustain the supply of health research knowledge, which can, in turn, be translated into policies and actions for better health.

The knowledge bases created from PCHRD's work and its programs are being purposively communicated to its partners and beneficiaries in the health and allied sectors. PCHRD has been a trendsetter in online information resource building, dissemination and searching services, notably, its HERDIN, e-Health and telecenter initiatives.

As we continue to witness everyday miracles in the health sciences, I am confident that PCHRD will deliver on its commitment to make research a significant contributor to social equity and better quality of life.

A handwritten signature in black ink, appearing to read 'Estrella'.

**ESTRELLA F. ALABASTRO**  
*DOST Secretary*





That pioneer Robert Noyce put it succinctly when he cautioned "Do not be encumbered by past history. Go off and do something wonderful." Indeed, while we are proud of what the PCHRD has accomplished in the past twenty years, we are also aware that innumerable challenges are still waiting to be hurdled in the new century.

In an age where the primary resource is knowledge, we all the more commit ourselves to our mission to promote research and the effective use of technology as requisites for the development of healthcare services in the country.

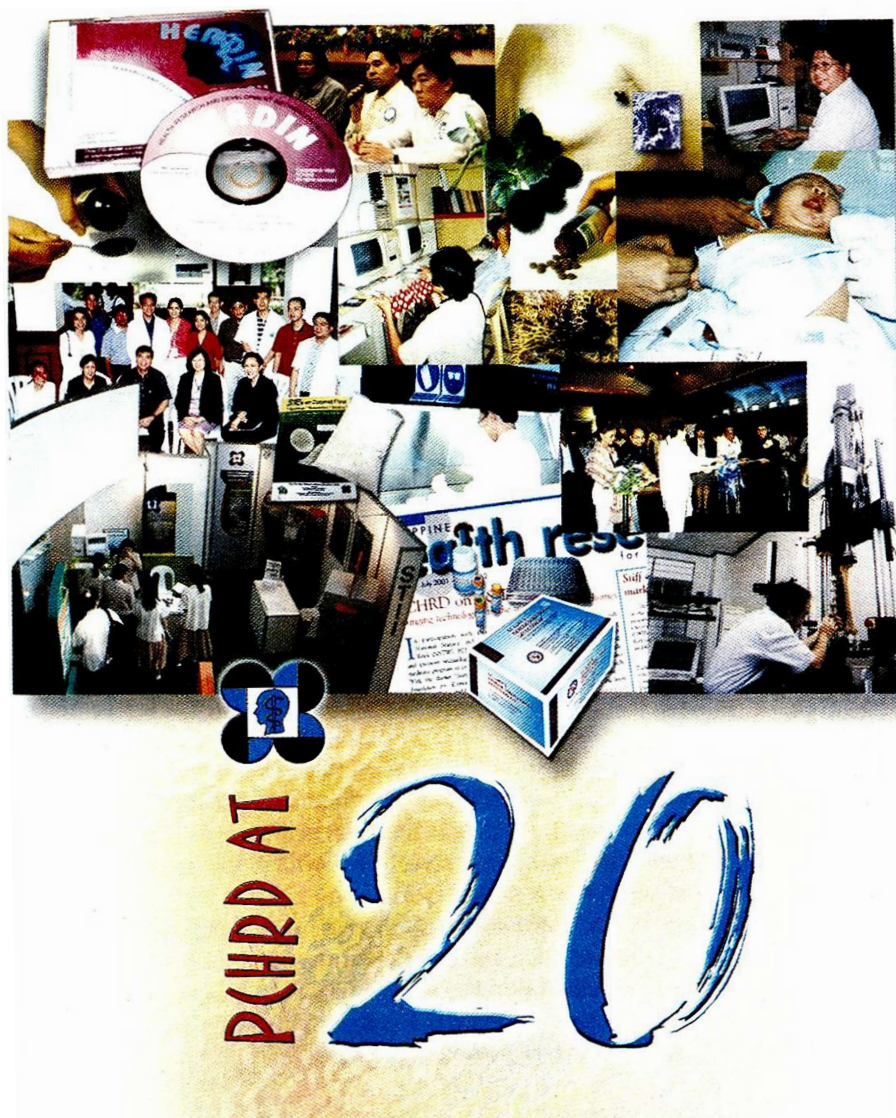
Thus, in 2002, we continued to build the human resource base for health research by encouraging new research advocates from regional sister institutions through the Twinning Project and other scholarship opportunities. We sought to enclose more communities into the mainstream of the digital economy through the Multipurpose Community Telecenter Project e-Health, HERDIN, and digital library initiatives. Moreover, we continued to build on traditional products and ideas, from herbal preparations to food fortification, while at the same time actively supporting new avenues for knowledge generation through the AMOR and ADONIS projects.

In 2003, we are aiming for something bigger: the consolidation of the various initiatives in the country to come up with a unified Health Research Agenda together with our partner agencies, towards a Philippine National health Research System.

Needless to say, coming up with one vision, one goal, for the Philippine health research community will entail a lot of work. But as Noyce said, we just need to pool our resources together to be able to do something wonderful.

A stylized, handwritten signature in black ink, likely belonging to Gemiliano D. Aligui.

**GEMILIANO D. ALIGUI, M.D., MPH, PhD**  
*Executive Director*





## HIGHLIGHTS

### **PCHRD @ 20: Assessing bioinformatics' role in health biotechnology**



Turning 20, the Council commits to advancing health research in our country by opening the gateway for health biotechnology. The celebration theme, "Bioinformatics: Advancing Biotechnology, Securing our People's Health," provided an opportunity to discuss and recognize the potentials of bioinformatics as a promising tool in speeding the way we do research in biotechnology and the life sciences. This development impacts research in vaccine, gene targeting technology, genomics and its related fields, hence, calls for new strategies for supporting and networking research in health biotechnology.

### **Setting up the Philippine National Health Research System**

A series of focus group discussions, a workshop, literature search, and an assessment of secondary documents was conducted by PCHRD, with the Health Policy Development and Planning Bureau (HPDPB)-Research Unit of the Department of Health (DOH) and the National Institutes of Health (NIH) to assess the Philippine National Health Research System (PNHRS).

Key findings of the assessment indicated that while there have been efforts to use local researches for policy and program development, the Philippines still need to improve on packaging its research results to reach their target audiences. Appropriate indicators and a unified system of evaluation and monitoring are also needed to measure gains in health.

The PCHRD, building on existing frameworks, was identified to take the lead in the PNHRS development in the country.

The PNHRS, anchored on the principles of Essential National Health Research (ENHR) on inclusiveness, participation, quality, equity, efficiency and effectiveness will promote, facilitate, synergize and coordinate activities to come up with a coordinated and coherent research agenda which connect to, and converge with, the wider health, economic, political, educational and S&T systems of the country.

## I. Health Gains from Research Investments

Research continues to play a vital role in changing our understanding and approaches in disease prevention and treatment, drug and vaccine development and health care strategies.

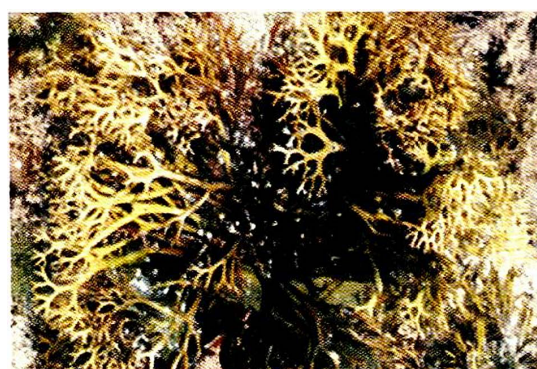
To this end, PCHRD continually updates itself to ensure it supports priority research programs that will most likely improve the health status of the country.

For this year, we focused on research on and scholarship grants for researchers working on natural health products; diagnosis, prevention and control of priority diseases; functional foods and nutraceuticals; drugs and vaccines for local needs; telemedicine and bioinformatics applications.

### ***COCONUT FLOUR, your healthy source of dietary fiber***

In September 2002, another product from coconut opened economic opportunity for the country when the Food and Nutrition Research Institute (FNRI) found that coconut flour is a good source of dietary fiber and can be comparable to oat bran and flaxseed known to prevent risk for chronic diseases.

This is the first reported study conducted on the physiological functions of dietary fiber from coconut by-product, coconut flour from 'sapal' or coconut residue thus, giving us the economic edge for increasing production of our coconut and coconut-by-products.



### **LOCAL SEAWEED EXTRACT, prevents heart disease**

In May 2002, carrageenan was found to lower lipid and high cholesterol levels. This was based on the PCHRD funded study on "*Metabolic effects of Local Seaweed Extracts II: Lipid and Cholesterol Levels*" conducted by the College of Home Economics in UP Diliman. Results showed that carrageenan, when added to foods and taken for 8 weeks at 40-50 grams dietary daily fiber intake, exerts lipid-lowering and hypocholesterolemic (cholesterol lowering) effects.

Carrageenan is a local seaweed extract commonly used as thickening, stabilizing or emulsifying agent in dairy products, reprocessed meats and a variety of other foods.



## Translating quality care through CLINICAL PRACTICE GUIDELINES

### On Management of Breast Cancer

To establish a more consistent clinical practice on the management of breast cancer, we collaborated with the Philippine College of Surgeons and the UP College of Medicine to develop the second Clinical Practice Guidelines (CPG) project.

Both online and manual literature search was conducted based on the clinical questions outlined for each of the clinical stages of breast cancer. Search results were compiled, analyzed and classified according to levels of evidence and recommendations were drawn-up for each stage of breast cancer: 1) Early Breast Cancer and 2) Locally Advanced and Metastatic Breast Cancer.

### On Periodic Health Examinations

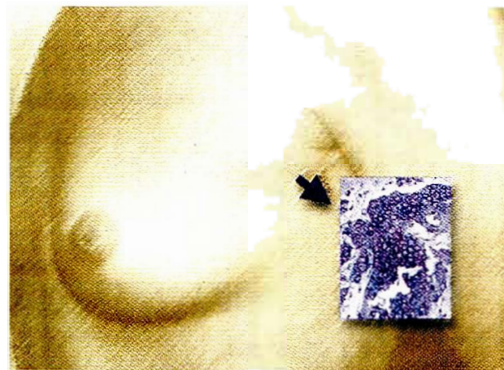
At present, a study is being conducted by the Philippine College of Physicians to develop a National Guideline that will specify the necessary clinical tests to be included in periodic health examinations. These guidelines not only prevent the quality of health service from depreciating, it will also help HMO's, physicians and hospitals in determining the screening tests needed in a cost-effective manner.

The national guidelines on periodic health examinations for Filipino patients will address screening for cardiovascular diseases, neoplastic diseases, mental disorders and substance abuse, musculoskeletal diseases, congenital diseases, prenatal disorders, infectious diseases, metabolic, environmental and renal disorders, vision and hearing disorders and childhood and developmental disorders.

## Developing drugs from Indigenous Resources

Continuing studies on priority Philippine medicinal plants are being conducted to validate claims on its therapeutic effect and safety; verify its pharmacologic, toxicologic, mutagenicity and anti-mutagenicity properties; and to establish quality standard procedures for dosage formulations for use in the treatment of priority diseases and/or disorders.

The DOST-funded research program, *"Antibody Biotechnology and Liposome Drug Delivery Technology for Experimental Therapeutics of Breast Cancer"* (AMOR Project) also continues its research work in developing drugs for breast cancer using antibody biotechnology and liposome drug delivery while harnessing the potential of marine and terrestrial resources.





## ***II. Bringing Research Results to the Market***

### **Health technologies available for takers**

In December 2002, the technology transfer documents containing the details of the production of the Yerba Buena tablet was completed. Interested takers may adopt the production technology through a non-exclusive licensing agreement. They only need to communicate directly with the Office of the Executive Director.

The Yerba Buena tablet was found comparable with paracetamol in relieving pains among patients with moderate to severe post-dental extraction, post-circumcision, post-episiotomy and post-tissue biopsy pain.

Also, the production technology for the Lagundi tablet and syrup (remedy for cough), Sambong tablet (diuretic, for urolithiasis) and Akapulko Lotion (antifungal), though transferred to local drug manufacturers, are still open to interested takers in the industry.

### **Creating value out of Patent-Free Drugs**

In August 15, 2002, a DOST-Industry Dialogue convened by PCHRD in coordination with the Technology Applications and Promotions Institute (TAPI) to discuss options in developing value-added products from patent-free drugs among industry partners and researchers in drug manufacturing sector. Responding to the need for technological innovation from off-patent drugs, DOST's proposal for industry collaboration was presented---the development of innovative products, capability building of the local drug manufacturers and other collaborative effort with the industry and the academe.



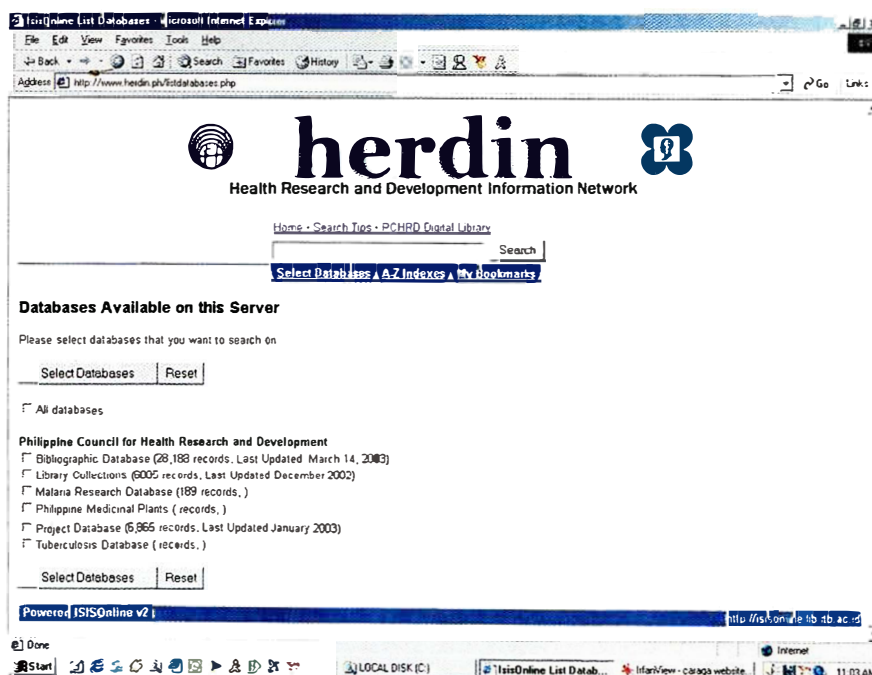
### III. Strengthening Research Information Services

#### HERDIN online for Free

PCHRD continues to generate information goods for the knowledge-driven Philippine society by developing specialty databases and web-based resources.

In August 2002, HERDIN online databases were made available for free. This drastically increased our number of subscribers to 400% in just four months.

As the needs of our researchers for updated health research abstracts and full text articles increased, we began developing the HERDIN (Health Research Development Information Network) CDROM Version 2, which is scheduled for release on June 2003. Aside from a totally new look and feel interface, the 2nd version of HERDIN CD contains 4,000 new bibliographic health research records and over 1,000 full-text articles.



## Locating Health Journals Online

For better access of information by health researchers, we supported a project that puts online the National Union List of Medical and Health Periodicals of the Medical and Health Librarians Association of the Philippines (MAHLAP). Now on its third volume, this web-based version of the National Union List of Medical and Health Periodicals (1996-2002) is expected to enhance resource sharing among libraries making journal holdings easily accessible and available-providing information from which specific libraries the journals are located.

Led by MAHLAP's President Ms. Adaway F. Raca, the project is presently encoding the lists of serial collections gathered from MAHLAP members. The launching of the evaluated library software and the Online MAHLAP Directory and Union List is scheduled on February 2003, during MAHLAP's 15th year anniversary, and is expected to be available on the MAHLAP website (<http://www.pchrd.dost.gov.ph/mahlap/>) by April 2003.

## E-Health Presents: Specialty Database and Internet Resources on People-Managed Health (PMH) and Reproductive Health

As part of the e-Health portal, the People-Managed Health (PMH) database-a community health research initiative of the Institute of Philippine Culture (IPC) of the Ateneo de Manila University, makes available in the Internet a learning database on people-managed health. This database reflected the advanced experiences in primary health care programs and community health in the Philippines. At present, the PMH database contains bibliographic entries and abstracts of 522 titles, 447 published and 75 unpublished articles.



**Dr. Dennis Batangan, PMH database project leader.**

PCHRD also supported the development of a specialty database and internet resources on Reproductive Health, a project headed by Dr. Mario Festin. This information gateway provides Philippine information on family planning, maternal and child health and nutrition, reproductive tract infections (HIV/AIDS and STDs), sexuality and sexual health, obstetrics and gynecology, men's and adolescents' reproductive health, violence against women, and sexual disorders. It also links with information resources existing within and outside the country.





## Building the E-Health Digital Library

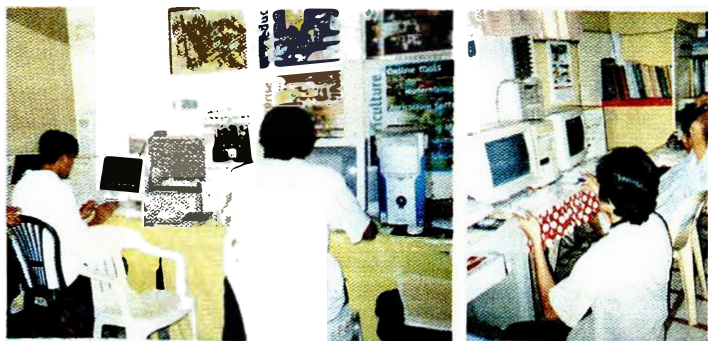
The "e-Health Digital Library" project aims to 'virtually' merge the collection and services of national and regional libraries from the academe and other institutions from the public and private sector in the Philippines-promoting sharing of library resources and piloting a strategy for accessing important international electronic health journals, in full text.

A survey which assessed the use and potentials of electronic resources and services showed that libraries play an important role in accessing information on the Net; and that most researchers would like libraries to go 100% online. Online searching enables researchers to retrieve up-to-date information more easily and gives them wider information choices.

## Utilizing ICT Tools for Community Development

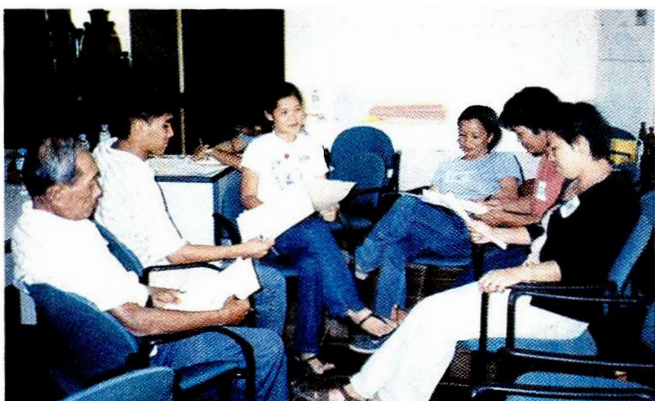
Responding to rural communities' information and communication needs through the use of ICT tools, we facilitated the development of an interactive and comprehensive website for our Multipurpose Community Telecenters (MCT) project ([www.barangayconnect.ph](http://www.barangayconnect.ph)). The website contains relevant information about the project, content and ICT-based applications on health, education, agriculture/fisheries/natural resources, and rural enterprise development developed by the project partners and the communities themselves.

Each of the four barangay MCT is in the process of developing their own website. The Agusan del Norte Community Telecenter launched in January 2002 its "*Hisgot-Hisgot sa Barangay*." The website, <http://caraga.dost.gov.ph/~mctagusan/>, served as the community's online newsletter, which enabled the communities to write news articles, post announcements, ask queries, and contribute articles on health, education, agriculture, livelihood, and business.



## Empowering Rural Communities through MCT

Activities that aim to enhance community mobilization in the two MCT sites in Lanao del Norte were undertaken. To date, several purok assemblies were conducted to discuss various concerns such as information campaign for the MCT project, identification of sectoral groups, appointment of sectoral representatives, and enumeration of information needs by each sector.



A core group and people's organization in each of the two barangays were formed. MCT volunteers from each purok were identified where skill assessment of the identified volunteers was conducted. MCT Board members were also identified. Rules and regulations in using MCT facilities were formulated. Trainer's training for MCT volunteers on computer literacy, effective teaching, and values formation as well as computer literacy training for teachers were also held.

The above activities proved to be not only helpful in promoting project awareness among community members but also in eliciting active community participation.

## Communicating Research through Techno-Fairs

PCHRD participated in five Science and Technology Fairs held in the regions in 2002.

This gave us an opportunity to promote economic opportunities from indigenous herbal products and encourage both government and private sectors to support and develop herbal products and applications in the country.

For these events, we showcased six herbal products among which two are already out in the market (*Lagundi* and *Sambong*), two undergoing phase III clinical trials (*Tsaang-Gubat* and *Ampalaya*) and two completed products ready for commercialization (*Akapulko* lotion and *Tsaang-gubat*). We also featured the PhilMedPlants Research Database, one of the e-Health specialty database projects, where researchers can access abstracts and full-text articles online.

The exhibits were displayed at Quezon City, Olongapo City, Ormoc City, Baguio City and Batac, Ilocos Norte. Local government officials, academicians, researchers, students and employees from various government and private sector organizations who were able to see the exhibits were given a venue for discussion and clarification especially about common misconceptions on herbal drugs that are commercially available nowadays.



**Winners of the 13th Scientific Poster Exhibit and their entries  
July 8-12, 2002**

*PROFESSIONAL CATEGORY*

**Grand Prize:**

Trinidad P. Trinidad, PhD, Divinagracia H. Valdez, Aida C. Mallilin, Faridah C. Askali, Joan C. Castillo, Anacleto S. Loyola, Dina B. Masa, Angelica S. Maglaya, Modesto T. Chua, PhD.  
Food and Nutrition Research Institute

"Dietary Fiber in Coconut Flour: A Functional Food"

*STUDENT CATEGORY*

**Grand Prize:**

Lilibeth A. Sales, L.A., OTRP, Alma C. Chang, Ariel L. Paredes, Ferleo C. Pasia, Jan Claire Rabang, Karen C. Tan and Michael Yutadco  
College of Rehabilitation Sciences, University of Santo Tomas

"iSee: A Computerized Screening Tool for Visual Perceptual Skills"

*BEST PACKAGED TECHNOLOGY*

Lilibeth A. Sales, L.A., OTRP, Alma C. Chang, Ariel L. Paredes, Ferleo C. Pasia, Jan Claire Rabang, Karen C. Tan and Michael Yutadco  
College of Rehabilitation Sciences, University of Santo Tomas

"iSee: A Computerized Screening Tool for Visual Perceptual Skills"



## Disseminating Health Information through the Tri-media and Online

For our health information dissemination activities, PCHRD continued to reach out to the health community and the general public through press conferences, symposia, seminars, health forums and exhibits to ensure that Filipinos reap the returns from public investment in health research and development.

This year, we held 11 exhibits, 13 press conferences, forums and symposia; monitored over 25 press releases; and disseminated more than 32,783 copies of print materials to research institutions in Metro Manila and in the regions.

We also expanded our feedback gathering system by converting the succeeding issues of the Philippine Health Research for Development Newsletter to a web version accessed by logging at **www.pchrd.dost.gov.ph/NEWSLETTER**. This bi-monthly newsletter still carries-over much of the publication's content in health and health R&D sections where readers can subscribe online for news updates.



## EXHIBITS / TECHNOLOGY FAIRS

PCHRD Anniversary & Bioinformatics  
Manila Midtown Hotel  
15 March 2002

APMC exhibit  
Manila Midtown  
11-12 April 2002

e-Gobyerno  
SM Megamall  
7-8 June 2002



Independence Day Exhibit  
Philippine Tourism Authority  
9-12 June 2002

13th Annual DOST S&T Fair  
PHILVOLCS  
8-12 July 2002

13th PCHRD Scientific Poster Exhibit  
UP-PGH  
8-12 July 2002

Regional Science and Technology Fair  
Olongapo City Convention Center  
21-26 July 2002

3rd Visayas Cluster Science and Technology  
Ormoc City  
8-12 August 2002

Cordillera Science and Technology  
Baguio National High School  
1-7 September 2002

PHILAAS Convention  
University of Sto. Tomas  
13-18 September 2002

Northern Luzon S & T Clusters  
Mariano Marcos State University  
Batac, Ilocos Norte  
30 September - 5 October 2002

## PRESS CONFERENCES and SCIENTIFIC FORUMS

Presentation of research fellowship project entitled,  
"Hemophilia: Molecular Approach"  
*University of Sto. Tomas-Research Center for Natural  
Sciences (UST-RCNS)*  
January 26, 2002

Presentation of 3 ongoing projects of FEU-SLU  
*St. Louis University (SLU), Baguio City*  
22 February 2002

Newborn Screening - Save the Babies from  
Mental Retardation and Death  
*University of the Philippines-College of Public Health  
(UP-CPH) Conference Room*  
1 March 2002

Substance Abuse among Street Children  
Press Conference  
*National Institutes of Health (NIH)*  
5 April 2002

Forum on Substance Abuse among  
Street Children  
*National Institutes of Health (NIH)*  
5 April 2002

Cancer Pain Management and Treatment  
Press Conference  
*National Institutes of Health (NIH)*  
27 June 2002

Presentation of Outstanding Health  
Research Award (OHRA)  
*PHIVOLCS*  
10 July 2002

Safety of Food Products Derived from  
Modern Biotechnology  
Press Conference  
*Philippine Trade Training Center (PTTC)*  
24 September 2002

Annual Health Research Forum for  
Completed Projects  
*RHRDF-7, Cebu City*  
21 November 2002

Research Forum-Twinning Project  
*St. Louis University, Baguio City*  
30 November 2002

Nutritional and Health benefits of coconut  
flour Press Conference  
*Nutritional Institutes of Health (NIH)*  
5 December 2002

Health Research Forum  
*Asia Stars Hotel, Tacloban City*  
6 December 2002

## PRESS RELEASES

[Radio, television and print media]

PCHRD Policies, Thrusts, Direction  
*DZMM - 13 January 2002*

Government Body in S&T has new Chief  
*Manila Bulletin - 14 January 2002*

Sambong Tablets/ Forte  
*DZEM - 4 February 2002*

PCHRD  
*DZRB - 28 February 2002*

PCHRD Anniversary, Medicinal Plants  
*Radio: Damayan - 4 March 2002*

PCHRD Anniversary  
*Radio: Bago Yan Ah - 10 March 2002*

Phytomedicines from Pascual Laboratories  
*Manila Bulletin - 14 March 2002*

Street children risk death from SSDS  
*Manila Bulletin - 8 April 2002*

Street children  
*DZRB - 9 April 2002*

Lagundi, sambong, ampalaya,  
WOW, UCLA doctors  
*Philippine Star - 3 June 2002*

NSTW  
*DZRM - 16 June 2002*

Lagundi, sambong in UCLA  
*Philippine Daily Inquirer - 5 June 2002*

DOST Media Awards  
*Manila Bulletin - 30 July 2002*

R&D on Health  
*Today Newspaper - 24 August 2002*

Intestinal Capillariasis, (deadly parasites in  
your favorite food)  
*Philippine Daily Inquirer - 24 August 2002*

Local Technology Centers to Establish  
Remote Links  
*Business World newspaper - 27 August 2002*

Bisa ng Gamot (Halamang Gamot)  
*Taliba - September 4, 2002*

Saving Tumor-affected bones  
*Philippine Daily Inquirer - 7 September 2002*

Radio interview  
OHRA Winner  
*DZRB, October 5, 2002*

DZMM Radio Interview  
OHRA Winner  
October 13, 2002

Meet on AIDS  
Seek to set guidelines vs disease  
*Philippine Daily Inquirer - October 16, 2002*

UP Manila 20 years in the pages of History  
*Today - October 17, 2002*

Lagundi Ascof Forte  
*Philippine Daily Inquirer - October 21, 2002*

Health Journals Now Online  
*Philippine Daily Inquirer - October 30, 2002*

Jewel Award gives Medicinal Plants Study  
*Manila Bulletin - December 16, 2002*



#### ***IV. Keeping the Human Resource Active and Productive***

##### **Course on Meta-Analysis Held**

To develop the research capability of health professionals, we sponsored a course on meta-analysis last July 25-27, 2002 at the University of the Philippines College of Public Health (UP-CPH) auditorium. Titled "*Meta-Analysis in Medical Research*," the three-day course was spearheaded by the Department of Epidemiology and Biostatistics (DEBS) of UP-CPH. The lecture was given by Dr. Dankmar Böhning, a world-renowned epidemiologist and biostatistician from Berlin-Humboldt University. Dr. Böhning discussed the types and designs of meta-analysis as well as methodological issues and recent developments in this area.

One hundred eleven (111) participants including those from Universiti Kebangsaan Malaysia and Myanmar attended. Local participants included representatives from hospitals, academic institutions, private and government organizations, pharmaceutical industries, and the Department of Health (DOH).



##### **The Cancer Genetics Project: Genetic Polymorphisms as Biomarkers for Cancer Risk**

Co-funded by PCHRD and the National Institutes of Health (NIH), the Institute of Human Genetics (IHG), NIH is presently conducting a molecular epidemiology study on the possible association between specific genetic polymorphism and cancer risk.

Current data suggests that age, sex, ethnicity and environmental exposure, maternal risk factors such as Ras and p53 mutations and gene to gene interactions must be considered to accurately assess the relationship between genetic polymorphism and cancer risk. By identifying high-risk individuals, the identified "at-risk genotypes" will serve as markers for cancer susceptibility. Also, better characterization of these gene-environment interactions in relation to carcinogenesis will play a vital role in developing health campaigns and cancer preventive methods.

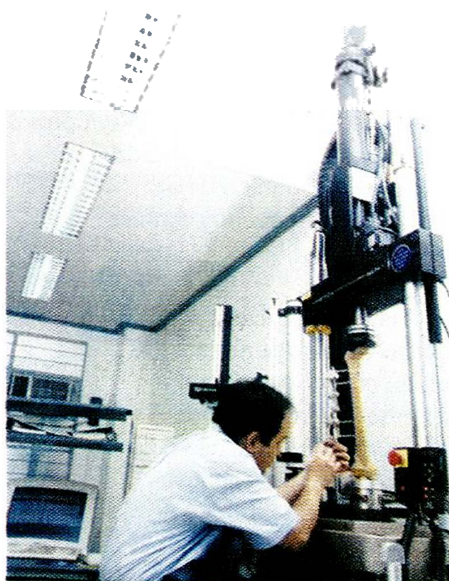




## Biomedical Devices Development Program, Phase 2

In 1998, we funded the procurement of the Instron Universal Testing Machine (UTM) model needed for the 5-Year Research and Development Program on Biomedical Devices headed by Dr. Rafael C. Bundoc of the Department of Orthopedics in UP-PGH. This five year program was completed in two years. In 2001, we approved the funding of the equipment needed for the Phase-2 of the program----the Establishment of the Gait Analysis Laboratory. This laboratory will serve in the analysis of human walking (gait) patterns, needed for preventing, treating and rehabilitating patients with leg (gait) problems.

The project officially began its implementation in 2002 and is expected to be completed in 2004.



## 2002 Outstanding Health Research Awardees

This year, ten nominations compete for the Outstanding Health Research Award (OHRA). For the first time, two researches for one category were found equally deserving for the award---all of equal scientific quality and equally responsive to the health concerns of the country.

The 2002 OHRA awardees were the following: The St. Luke's Dengue Research Program and Dr. Wang for his clinical work on Extremity Tumors, Limb Salvage Surgeries and Bone Transplantation for the Biomedical Research Category and the Helminthiasis Group for the Health system development category.



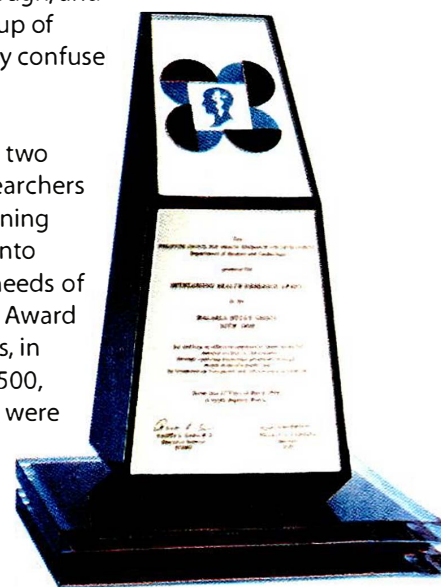
The **St. Luke's Dengue Research Program** was awarded for its dedication in developing diagnostic reagents and kit for dengue fever detection. They are also cited for their efforts to transfer the technology and initiate the development of an infrastructure for monitoring dengue cases and crisis management outbreak within the sentinel sites of the Department of Health (DOH).



**Dr. Edward Wang's** research work on the other hand was cited for providing an alternative to amputations and limb loss mostly due to bone cancer and bone transplants using allografts and limb saving surgeries. Dr. Wang's research resulted to a *paradigm shift* among doctors and patients regarding cancers of the extremities (arms and leg).

The **Helminthiasis Study Group (HSG)** was cited for its research on the widespread occurrence of death among children due to soil transmitted *helminthiasis* (intestinal worm infections) and its implication on the nutritional status and mental health on children. HSG's work on *paragonimiasis* (long fluke disease) assisted in preventing misdiagnosis of pulmonary tuberculosis (PTB) among infected patients since these two diseases have similar symptoms especially on chronic cough, and hemoptysis (coughing up of blood), which frequently confuse the diagnosis.

OHRA is awarded every two years to encourage researchers to exert efforts in realigning their research outputs into addressing the health needs of the Filipino people. The Award comes in two categories, in which, a cash prize of P500,000 pesos and a trophy were given per category.





### **PCHRD Scholarship and Thesis Assistance Program**

This year, we funded five new PCHRD scholars (4 PhD/Dr PH; 1 MS) and three new thesis/dissertation grantees (2 PhD; 1 MS).

Out of the 46 on-going PCHRD scholars, five (4 MS; 1 PhD) graduated; while out of the 16 ongoing thesis/dissertation grantees, seven have completed (1 PhD; 6 MS) their papers.

Three scholars from Mindanao were supported: two from Davao Medical School Foundation (DMSF) and one from Central Mindanao State University (MSU) in Bukidnon.

### **PCHRD Research Fellowship Program**

Of the three research fellows, one research fellow from Bicol Medical Center completed the implementation of the project entitled, "Assessment of the Health Effects of Chronic Solvent Abuse among Street Children in Metro Manila" and presented the results of the said project in a press conference held last April 5, 2002 at UP-NIH, Pedro Gil, Manila.

### **Short-term Training Program**

A total of 9 training courses on basic research methods were conducted to enhance research skills of 300 medical faculty and staff of selected health research institutions.

### **Regional Research Funds**

In line with the principle of equity in research, we provided funding assistance to five new research apprenticeship projects to encourage beginning researchers from the regions to be involved in health research. Out of the 39 on-going research apprenticeship projects, 19 had been completed.



### **Equity in Research - the Regions**

The Regional Health Research and Development Committees in Regions 1,6,7,8 and 11 continued to undertake programs which were aimed to develop research interest and enhance research capabilities in the region through PCHRD's support.

Through the twinning program, a mechanism that enables centers of excellence based in Metro Manila to work with region-based institutions, the following twins undertook collaborative research work: University of the Philippines-College of Public Health (UP-CPH) and Ago-Bicol Christian College of Medicine; University of Santo Tomas (UST) Faculty of Medicine and Surgery and Angeles University Foundation; Far Eastern University-Dr. Nicanor Reyes Memorial Foundation (FEU-NRMF) and St. Louis University; Cebu Institute of Medicine and West Visayas State University. Ten research projects of five regional institutions were presented in a research forum held at the St. Louis University last November 30, 2002.



In Mindanao, a regional research forum was conducted last February 9, 2002 to disseminate and use the results of two completed researches from Xavier University's Dr. Jose P. Rizal College of Medicine. The forum was well-participated by the city health council officials of Cagayan de Oro, council of deans in Region 10 and directors of hospitals



## Profiles

### **Ma. Cristina Romero Ramos**

PCHRD Fellow, 1998

Maria Cristina Romero Ramos received the PCHRD Research Fellowship grant for her project, '*Saponin as Booster of the Immune System*' in 1998. At present, she works as an Assistant Professor with the University of Santo Tomas (UST) teaching Biochemistry and handling thesis students.

She also works as Research Assistant with UST's Research Center for Natural Sciences, where she determines the immunomodulating property of natural products by performing assay on apoptosis and releases of cytokines; maintains cancer cell lines at the tissue culture laboratory and assists on the supervision of undergraduate students in the conduct of their research work.

To date, she has presented over 10 scientific papers in the country and published, in both local and international journals, three research articles. She also received several grants and awards among which are: the Deutscher Akademischer Austauschdiens (DAAD) "*Sandwich Programme*" Scheme at Heinrich-Heine-Universität in Dusseldorf, Germany; three months training grant from the British Council at the University of Strathclyde in Glasgow, Scotland in 1998; and a scholarship grant from the Philippine Council for Advanced Science and Technology (PCASTRD) for her MS in Chemistry in 1989-1991. She also won 2nd place for her entry, '*Killing cancer cells softly*,' in PCHRD's 9th Scientific Poster Exhibit Contest.

Maria Cristina Ramos is also presently pursuing her doctorate degree in Chemistry at UST.



**Ma. Cristina Romero Ramos**

## @ PCHRD Homepage

### **Our Human Resource**

PCHRD will not be able to carry out its countless tasks and responsibilities without the concerted effort of 70 staff members, which, for this year, is composed of 41 technical, and 29 non-technical personnel.

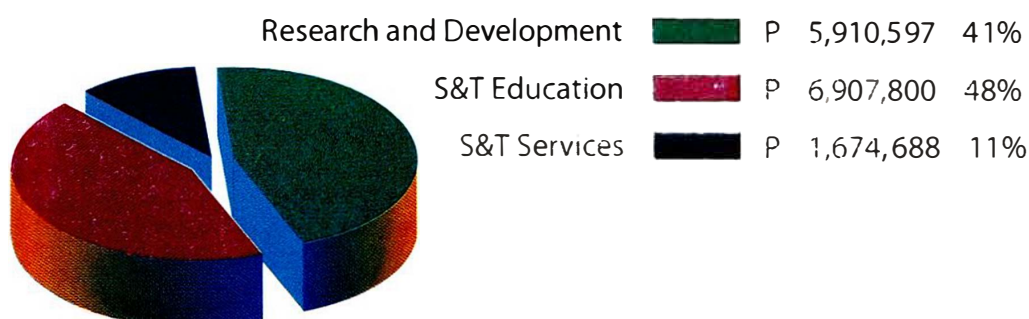
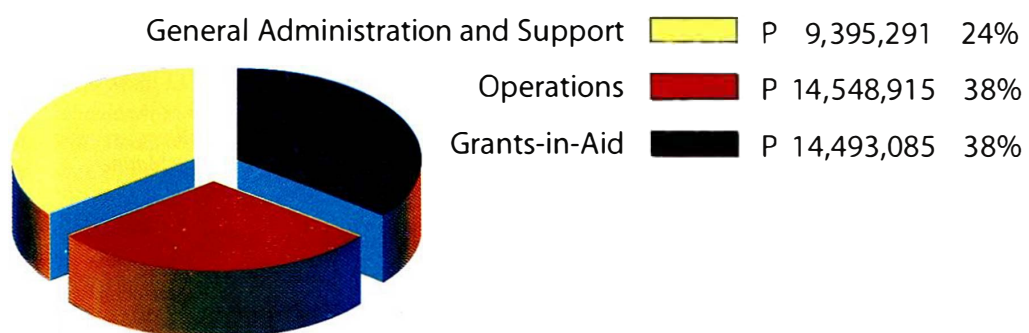
To enhance the efficiency and quality in rendering our services, PCHRD sent 21 staff to training courses and seminars related to their profession. This gave them an opportunity to update their knowledge on new developments in their respective fields and improve productivity.

We also encouraged our staff to pursue advanced studies to further hone their knowledge and skills. One of our staff joined the ranks of our 16 masters and doctorate degree holders this year. Four are currently pursuing masters' degree and one a doctoral degree.

## FINANCIAL REPORT

FY 2002

|  | Allotment         | Expenditures      |
|--|-------------------|-------------------|
| General Appropriations from Government |                   |                   |
| General Administration and Support     | 9,395,291         | 9,373,720         |
| Operations                             | 14,548,915        | 14,457,599        |
| Grants-in-Aid                          | 14,493,085        | 14,493,085        |
| Research and Development               | 5,910,597         | 5,910,597         |
| S & T Education                        | 6,907,800         | 6,907,800         |
| S & T Services                         | 1,674,688         | 1,674,688         |
| <b>Total</b>                           | <b>38,437,291</b> | <b>38,324,404</b> |
| Funds from other sources               | 8,890,749         | 8,297,858         |
| <b>GRAND TOTAL</b>                     | <b>47,328,040</b> | <b>46,622,262</b> |



## APPENDICES

### PCHRD SCHOLARS for CY 2002

(Sending Institution)

#### Completed

##### Doctoral Degree

Dr. Wilfredo Vendivil  
PhD Biological Sciences  
National Museum

##### Master's Degree

Dr. Elinor Gumila  
MSPH Physiology  
FEU-NRMF

Dr. Jose Navarro  
MS Clinical Epidemiology  
UST Faculty of Med and Surgery

Dr. Fideta Dico  
MSPH Microbiology  
Regional Health Office No. VIII

Dr. Lucila Perez  
MS Clinical Epidemiology  
MCU-FDTMF

#### New Scholars for SY 2002-2003

##### Doctoral Degree

Ms. Marilyn Crisostomo  
PhD Statistics  
UP College of Public Health

Dr. Edgardo Gonzaga  
Dr. PH Medical Microbiology  
Western Visayas Sanitarium

Ms. Razel Kawvono  
Dr. PH Medical Microbiology  
San Lazaro Hospital

Ms. Ligaya Picazo  
Dr. PH Medical Microbiology  
RITM

##### Master's Degree

Ms. Ma. Grace Rosales  
MS Biostatistics  
MCU-FDTMF

### THESIS/ DISSERTATION GRANTEES

#### Completed

Shirley L. Caballero  
University of Perpetual Help-Rizal  
Degree: PhD Chemistry - DLSU  
Title of Dissertation:  
"Mushroom Metabolites as Potential Medicinal  
Agents and their Chemical Transformation"

Corine Lei Manangan  
Angeles University Foundation  
Degree: MS Microbiology- UST  
Title of Thesis:  
"Sorbitol-coconut Water Agar Medium for the  
Initial Isolation of Escherichia coli 0157:H7"

Ma. Hanshella Resurreccion-Magno  
Institute of Chemistry- UP Diliman  
Degree: MS Chemistry  
Title of thesis:  
"The anti-diabetic constituent of Syzygium  
samarangense Blume Leaves: Its Isolation,  
Purification and Structure Characterization"

Pilar de la Sena  
MSU-IIT  
Degree: MS Chemistry - MSU IIT  
Title of Thesis:  
"Bioactivity-guided isolation and Partial  
characterization of Metabolites from the Marine  
sponge Thorecta sp."

Phoebe Espinas  
National Museum  
Degree: MS Biological Sciences- UST  
Title of Thesis:  
"The Ethnomedicinal Plants of the Abellen Ayta of  
Tarlac"

Fern Ann G. Ramo  
Silliman University  
Degree: MPH- Silliman University  
Title of Thesis:  
"A cost-benefit Analysis of the Directly Observed  
Treatment Short Course (DOTS) TB Program in the  
District of Bindoy, Negros Oriental in 1998 - 2000"

Cecile Leah Tiangson  
UP College of Home Economics  
Degree: MS Nutrition- UP Diliman  
Title of Thesis:  
"Relation of Diet and Income to the  
Docosahexaenoic Acid (DHA) Level in the Breast  
Milk of Some Filipino Women"



## On-Going

Nina Castillo-Carandang  
UPManila- Clinical Epidemiology Unit  
Degree: PhD Medical Anthropology - University of Amsterdam  
Title of Dissertation:  
*"Household & Community Responses to Fever and Perceived Malaria in an Endemic Philippine Village"*

Teresita A. Tamayo  
Bulacan State University  
Degree: PhD Chemistry- UPDiiman  
Title of dissertation:  
*"Chiral Separation of Ofloxacin Based on MIP"*

Bella Panlillo  
Angeles University Foundation  
Degree: PHD Chemistry-UST  
Title of Dissertation:  
*Isolation and Structural Elucidation of the Antitubercular Constituents from Momordica charantia Linn."*

Tereza Paz G. Pascual, MD  
DI SU- Dasmariñas, Cavite  
Degree: MS Clinical Epidemiology- UPCEU  
Title of Thesis:  
*"The Impact of Multi-faceted Educational Strategy on Improving practice Behavior Among Otolaryngologists in the treatment of Chronic Otitis Media with Effusion in Children and Chronic Suppurative Otitis Media in Adults"*

Pura Alma D. Labis  
MSU IIT  
Degree: MS Social Science-DLSU  
Title of Thesis:  
*"Reproductive Experiences of Second Wives of Polygamous Marriages in Iligan City and Lanao del Norte"*

Ruby Raterta  
PCIERD  
Degree: MS Biological Sciences-UST  
Title of Thesis:  
*"Composition and Fermentability Characteristics of Selected Legumes as a Source of Dietary Fiber"*

## New Grantees

Jose A. Mallari  
MCU  
Degree: PhD Biological Sciences-UST  
Title of Dissertation:  
*"Production of Biodegradable Polybeta-hydroxybutarate from Sugarcane Molasses and Sulphite Waste Liquors by Batch and Fed-batch Fermentation"*

Elizabeth I. Olarte  
DMMSU- La Union  
Degree: PhD Biological Sciences- UPDiliman  
Title:  
*"In vitro anti-tumor and in vivo anti-teratogenic activities of the anthraquinones from Cassia alata L. leaves"*

Marilym Rimando  
UST-RCNS  
Degree: MS Biological Sciences-UST  
Title of Thesis:  
*"Cytogenetics and Molecular Detection of Chromosomal Aberrations and Fusion Genes in Acute Lymphoblastic Leukemia (ALL) among Filipinos"*

## RESEARCH FELLOWSHIP PROGRAM GRANTEES

### Completed

Janeta F. Sacbibit, MD  
Sending Institution: Bicol Medical Center  
Host Institution/Scientist: NPCIS-UPPGH/ Dr. Lynn Panganiban  
Title of Project:  
*"Assessing the Health Effects of Chronic Solvent Abuse Among Streetchildren in Metro Manila"*

### On-going

Sheila M. de Jesus  
Sending Institution: UST-College of Science  
Host Institution/Scientist: UST-RCNS/ Dr. Gloria DC Bernas  
Title of Project:  
*"An Evaluation of Filipino Hemophiliacs: Molecular Approach"*

Danilo Villamangca, MD  
Sending Institution: Rizal Medical Center  
Host Institution/Scientist: NPCIS-UPPGH/ Dr. Irma Makalinao  
Title of Project:  
*"A Randomized Double-blind Controlled Trial of the Efficacy and Safety of Lorazepam and Diazepam in the Treatment of Patients with Alcohol withdrawal at the UP-PGH Medical Center"*

Imelda A. Dakis, MD  
Sending Institution: UST Faculty of Medicine & Surgery  
Host Institution/Scientist: UST-RCNS/ Dr. Gloria DC Bernas  
Title of Project:  
*"Geneomic Survey of Chronic Schizophrenia and Bipolar Affective Disorder in Filipinos"*

## LIST OF TRAINING CONDUCTED

Training on Basic Research  
February 4-8, 2002  
Batangas Regional Hospital  
(34 participants attended)

Training on Basic Research Methods  
May 9-11, 2002  
West Visayas State University (WVSU)  
(26 participants attended)

Training on Basic Research Methods  
May 14-16, 2002  
Samar State Polytechnic College, Catbalogan, Samar  
(25 participants attended)

Short-term Course on Anti-oxidants  
April 3-6, 2002  
University of Sto. Tomas-Research Center for Natural  
Sciences (UST-RCNS)  
(21 participants attended)

Training on Meta Analysis for Health  
July 25-27, 2002  
University of the Philippines-College of Public  
Health (UP-CPH)  
(110 participants attended)

Training on Data Analysis with Application  
on Microcomputers  
September 24-27, 2002  
Center for Health Development, Palo, Leyte  
(23 participants attended)

Training on Basic Research Methods  
September 11-12; 18-19;  
September 30-October 1, 2002  
Divine Word Hospital  
(24 participants attended)

Training on Basic Research Methods  
October 2-4, 2002  
Country Lodge, Maasin City, Leyte  
(17 participants attended)

Seminar on Ethics in Research  
November 8, 2002  
Department of Health (DOH) Conference Room  
Candahug, Palo, Leyte  
(20 participants attended)



## RESEARCH APPRENTISHIP PROJECTS\* For CY 2002

### New

1. Factors Associated with Exclusive Breastfeeding of Infants up to 4th month
2. Lifestyle Characteristics Associated with Cardiovascular Disease Among Health Workers and Industrial Workers in Bicol Region
3. Documentation of the Practice Patterns in the Use of Indigenous Herbs in the Management of Hypertension, Diabetes Mellitus, Hypercholesterolemia and Tuberculosis in Cities of Cebu and Iloilo
4. Morbidity and Mortality Trends for the Year 2002: Towards the Development of a Hospital-Based Data Registry, Cebu City and Iloilo City (deferred implementation)
5. Identification of Common Disorders Associated with the Common Chief Complaints of Patients Admitted in Tertiary Hospitals in Cebu City and Iloilo City, Jan. 2002-Dec. 2002 (deferred implementation)
6. Prevalence of Dental Fluorosis Among the Residents of Poblacion, Bato, Leyte
7. Documentation of Indigenous Practices for Snake Bites in Northern Samar
8. Factors Associated with Acute Renal Failure of the Patients of Three Tertiary Hospitals in Legaspi City
9. Prevalence Study of Filariasis in Misamis Occidental
10. Descriptive Study of a Mass Pap Smear Reproductive Women in Cagayan de Oro
11. Efficacy of Commercial Sponge Filters in Improving Tap Water Potability in Dagupan City
12. Predisposing Factors of Mental Illness Among Psychiatric Patients at Mariano Marcos Memorial Hospital and Medical Center
13. Nosocomial Infections in Region 1
14. Prevalence of Clinically Significant Depressive Symptoms Using Beck Inventory Among Students of AGO-BCCM

### On-going

1. Safety, Efficacy and Quality Studies on Selected Herbal Medicinal Products in Davao City
2. The Accuracy and Reliability of Rural Health Units Microscopic laboratory Team in the Detection of Malarial Parasites
3. Community Based Approach in the Control of Schistosomiasis in Newly Discovered Endemic areas
4. Randomized Clinical Trial Between Akapulko (Cassia alata) extract and Cotrimoxazole Cream 1% in the Treatment of Otomycosis
5. The Comparison of the Snail Infection Rate Before and After Mass Treatment of Human Population in Selected Endemic Barangays of Leyte

## Completed

1. Prostate Specific Antigen (PSA) Measurement in Asymptomatic Men with Equivocal Digital Rectal Examination (DRE): Its Impact in Early Diagnosis of Prostate Cancer
2. Determination of the Prevalence of Iodine Deficiency and Correlation of Palpatory Determination of Thyroid Size with Ultrasonography in the school-aged population in a Barangay in Baguio City
3. Factors Associated with Anemia in Pregnant and the Relationship of Anemia to Low Birth Weight
4. KAP of the Indigenous Tribes of Albay and Camarines Sur on the Use of Medicinal Plants
5. The Effect of Short-term Steroid Therapy on the Tuberculin Reactivity of Patients (1-5 y/o) with Bronchial Asthma Suspected with Tuberculosis
6. KAP of Rural-Based Physicians on National Consensus of Tuberculosis Management
7. In vitro-effect of Luya Extract, Sampaloc Leaf and Saluyot Leaf Decoction on MTB
8. Hemoglobin Levels of Pre-school Children at High Altitude
9. A Survey on the Socio-demographic Profile of Physicians in Angeles City
10. Demographic Characteristics of Patients Admitted at Angeles University Foundation Medical Center in a 5-year Period
11. Knowledge, Personal and Work Related Characteristics: Its Association to Attitudes of Nurses on HIV/AIDS (Reg. 6)
12. Chemical and Antitubular Studies of Morinda Citrifolia Linn (Noni) Fruit
13. The Epidemiology of Child Abuse in the City of Iloilo from 1995-2000
14. Preliminary Study on the Potability of Water in Selected Public Elementary Schools in Iloilo City, Philippines
15. A Cross-sectional Study of the Elderly Population of Cagayan de Oro City, 2001: Their Quality of Life and the Factors Affecting It
16. Cost Effectiveness Analysis of Screening and Immunization of Hepatitis B Among High Risk Personnel in Selected Private Hospitals of Cagayan de Oro City, 2001
17. The Reliability of Daytime Peripheral Blood Smear Collection in the Diagnosis of Filariasis
18. Prevalence and Factors Associated with Hypertension in Biliran Province
19. Traditional Medicine Practitioners and Their Practices in Leyte

*\* Research Projects of beginning researchers in the regions*

## LIST OF R&D PROJECTS

### Completed

Evidence-Based Clinical Practice Guidelines on the Management of Breast Cancer  
*Department of Surgery*  
*UP-PGH*

Nutritional and Health Benefits of Coconut Flour  
*Food and Nutrition Research Institute, DOST*

Metabolic Effects of Local Seaweeds Extract II: Lipid and Cholesterol Levels  
*College of Home Economics*  
*UP Diliman*

### Continuing Projects

Pharmacologic/Toxicologic Studies of Philippine Medicinal Plants  
*Department of Pharmacology, UP Manila*

Mutagenicity, Clastogenicity, Anti-mutagenicity Potential of Drug Preparations from Philippine Medicinal Plants  
*College of Science, Department of Chemistry*  
*UP Diliman*

Establishment of Quality Control Bioassay Standard Procedures for Medicinal Plant Products  
*Department of Pharmacology*  
*UP Manila*

Dosage Forms from Medicinal Plant Constituents  
*College of Pharmacy*  
*UP Manila*

Clinical Screening and Validation Studies of Medicinal Plants Used in Traditional Folk Medicine in the Philippines  
*Department of Pharmacology, College of Medicine*  
*UP Manila*

Development of Appropriate Cultural Management Practices to Improve Yield and Quality of Selected Medicinal Plants  
*Department of Horticulture, College of Agriculture*  
*UPLB*



## Ongoing Projects

A Sero-Epidemiologic Study of Hepatitis E Virus (HEV) Infection in the Philippines: A Community-based Cross-sectional Study

*Liver Study Group*  
*UP Manila*

National Quality External Assessment of Clinical Laboratories in the Philippines

*Phil. Council for Quality Assurance in Clinical Laboratories*

Aspirin Dose Optimized in Non-cardioembolic Ischemic Stroke (ADONIS)

*UP-PGH Department of Neurosciences*

Development of National Guidelines on Periodic Health Examination

*UP Department of Medicine Foundation*

Generation of Humanized Single Gene-Encoded Antibodies with varied Effector Functions for Direct Use as Anti-Tumor Reagents and for the Production of Immunoliposomes: Desiclon (Proj 1-AMOR Program)

*National Molecular Biology and Biotech*  
*UP Diliman*

Synthesis, physico-chemical and biological characterization of immunoliposomes for tumor cell surface Antigen directed delivery of anticancer drugs: Liprolong (Proj. 2 AMOR Program)

*College of Medicine, FEU-Nicanor Reyes Medical Foundation*

Discovery and Development of Anti-cancer Drugs and other Agents for Immunoliposomes-mediated Delivery to Breast Cancer Cells-PHILMARINA and PHILFLORA (Proj. 3.1 AMOR Program)

*Marine Science Institute*  
*UP Diliman*

Discovery and Development of Anti-cancer Drugs and other Agents for Immunoliposomes-mediated Delivery to Breast Cancer Cells -PHILCELLS and GENEDELI (Proj. 3.2 AMOR Program)

*NSRI*  
*UP Diliman*

Discovery and Development of Anti-cancer Drugs and other Agents for Immunoliposomes-mediated Delivery to Breast Cancer Cells-MOL-TARGET and VITROTOX (Proj. 3.3 AMOR Program)

*Marine Science Institute*  
*UP Diliman*

### New

Technology Generation and Transfer of Margarine Fortified with Vitamins A & B1, Iron, Iodine, Omega 3 and 6 Fatty Acids

*FNRI, DOST*



**PHILIPPINE COUNCIL FOR HEALTH RESEARCH AND DEVELOPMENT**

Department of Science and Technology

3/F DOST Main Building, Gen. Santos Avenue

Bicutan, Taguig, Metro Manila, Philippines

