

# **NAST**

## **Annual Report**

### **1992**

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**NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY**  
**Republic of the Philippines**

# **N A S T**

## **Annual Report**

### **1992**

**NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY**  
**TAPI Bldg., DOST Compound**  
**Bicutan, Taguig, Metro Manila**

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## **FOREWORD**

This publication highlights the accomplishments of the Academy in the year under review.

The Academy continued in its efforts as the country's foremost recognition and advisory body on science and technology.

**CONRADO S. DAYRIT**  
Acting President

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# NATIONAL ACADEMY OF SCIENCE AND TECHNOLOGY

## 1992 Annual Report

The 1992 accomplishments of the Academy in pursuit of its mandated functions of recognition, advisory and establishment of international linkages are as follows:

### 1. RECOGNITION FUNCTION

#### (1.1) Academicians

The Academy elected four new Academicians, namely: Mercedes B. Concepcion, Ph. D., of the Population Institute, UP Diliman; Ernesto O. Domingo, M.D., Chancellor of UP Manila; Rafael D. Guerrero III, Ph. D., Director of the Philippine Council for Aquatic and Marine Research and Development; and Evelyn Mae Tecson-Mendoza, Ph. D., of the Institute of Plant Breeding, UP Los Baños. This brings the membership of the Academy to 42.



From left, newly elected Academicians Mendoza, Concepcion, Domingo, and Guerrero take their oath of office before Academician Lantican who represented DOST Secretary Ricardo T. Gloria.

**(1.2) Outstanding Young Scientists**

The eight OYS awardees are: Arsenio M. Balisacan, Ph. D. (Economics), Rhodora A. Del Rosario, M.D. (Otolaryngology), Portia G. Lapitan, M.S. (Forest Biology), Luz R. Noche Franca, Ph. D. (Mathematics), Valentino C. Perdido, M.S. (Crop Science), Caesar A. Saloma, Ph. D. (Applied Physics), Irene M. Villaseñor, Ph. D. (Chemistry), and Ma. Helena T. Yap, Ph. D. (Marine Biology).



Dr. Ma. Helena T. Yap receives the OYS trophy from Dr. Conrado S. Dayrit and Dr. Faustino T. Orillo.

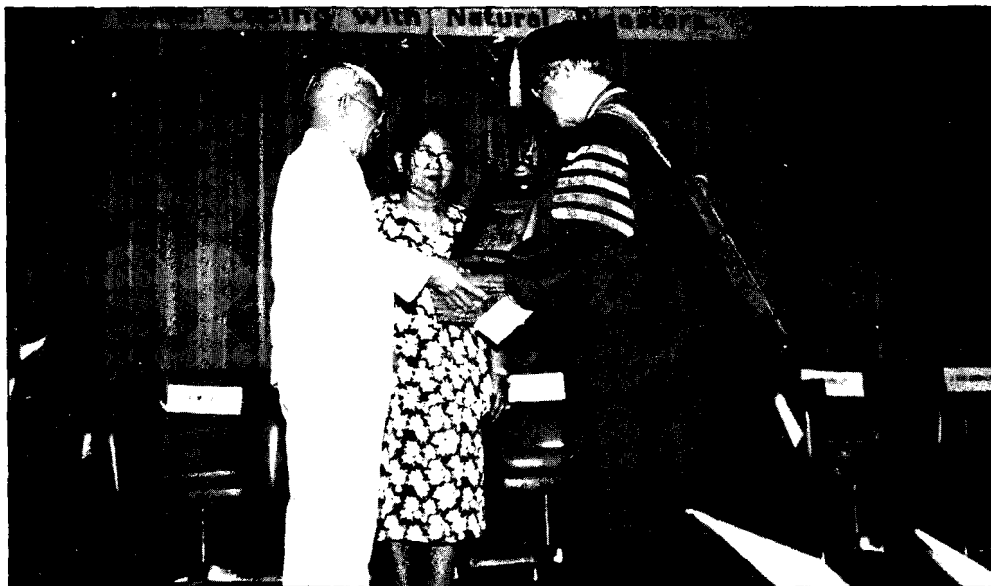
**(1.3) NAST-TWAS Science Prize**

Polly W. Sy, Ph. D., UP Diliman professor and a 1988 OYS awardee received the NAST-TWAS Science Prize in Mathematics.

**(1.4) Philippine Science Talent Search**

Ms. Rowena Cristina L. Guevara's research entry "Development of a Low Cost PC-Based Spectrum Analyzer" received the first prize. Second prize winner was Mr. Roy Roberto L. Gerona's entry "Facilitated Leaching of Pyrite from Refractory Gold Ore by *Thiobacillus ferrooxidans*". Third prize recipient was Ms. Josephine U. Agravante's entry "Biochemical Changes in Ethylene and Ethanol-treated Bananas". Special citations were

given to Dr. Cesar G. Demayo's entry "Generic Variations in Selected Rice Pests from the Philippines"; Ms. Neila S. Sumagaysay's entry "Utilization of Seed and Rice Straw Compost for Milkfish (*Chanos chanos*) Production in Brackishwater Ponds"; and Ms. Ru Angelie M. Edrada's entry "Anti-inflammatory Screening of Some Philippine Plants Using Biochemical Methods."



Mr. and Mrs. Guevara, parents of Ms. Rowena Cristine Guevara, receive the first prize trophy for Philippine Science Talent Search.

### **(1.5) Awards for Outstanding Published Papers**

To encourage scientists to publish their research results in Philippine scientific journals and to give our journals chance to flourish and improve in quality, NAST decided to give awards to outstanding published papers starting 1993.

The selection committee is composed of Academicians Magdalena C. Cantoria (Chairperson), Tito A. Mijares, and Dolores A. Ramirez. Subcommittees were also formed to assist in the work. (Appendix A)

**(1.6) Benefits of Academicians**

(1.6.1) The Academy gave research fellowships to seven Academicians for various scientific prospects.

NAME	PERIOD COVERED	TITLE
MAGDALENA C. CANTORIA	Dec. 1, 1991 to Jan. 31, 1993	Morphology and Anatomy of Plant Drugs Yielding Volatile Oils Useful in the Pharmaceutical and Food Industries
CARMEN C. VELASQUEZ	Feb. 1, 1992 to Jan. 31, 1993	Parasites of Vertebrates from the Philippines
CLARE R. BALTAZAR	May 1, 1992 to Apr. 30, 1993	An Inventory of Philippine Insects Vol. II. Order Lepidoptera (Rhopalocera)
PAULO C. CAMPOS	May 1, 1992 to Apr. 30, 1993	Audiovisual Resource Technology Program for Science Education and Policy Development
FILOMENA F. CAMPOS	June 1, 1992 to May 31, 1993	Study of the Science Agenda on Global Environmental Changes in the Philippine Context
CLARA Y. LIM-SYLIANCO	June 1, 1992 to May 31, 1993	Bioorganic and Bioinorganic Reaction Mechanisms
MELECIO S. MAGNO	June 1, 1992 to May 31, 1993	Environmental Aspects of Nuclear Power

Table 1. The seven research fellows

(1.6.2) Academician Lim-Sylianco's *Molecular Biochemistry* and Academician Cantoria's *Selected Aspects of Pharmacognosy* were given publication assistance. Both books will provide scientists and students much information in these fields.

(1.6.3) The Academy's beloved President, National Scientist Dioscoro L. Umali died on July 1, 1992 at the age of 74. He was given a hero's state funeral and in accordance with his wish, buried at his hometown in Los Baños, Laguna. In his honor, the Academy established the Umali Lecture Series. Dr. Ilya Prigogine, 1977 Nobel Laureate in Chemistry, was selected as the first speaker, upon suggestion of Academician Apolinario D. Nazarea. His lecture entitled "Science and Technology: Its Impact in Human Culture" was delivered at the Science Teacher Training Center Auditorium, UP Diliman, August 7, 1992.



Academician Apolinario Nazarea introduces Prof. Ilya Prigogine (seated center)

Professor Ilya Prigogine exchanges pleasantries with Academician Quintin Kintanar, NAST President Dr. Conrado S. Dayrit and National Scientist Alfredo V. Lagmay



## 2. ADVISORY FUNCTION

### (2.1) Working Committee on Disaster and Environment

The Executive Council created a working committee to work on the recommendations of the speakers and conference on Disaster Mitigation and on Environmental Management. It is composed of Academicians Gelia T. Castillo (Chairman), Mercedes B. Concepcion, Alfredo V. Lagmay, Rafael D. Guerrero III, and Ernesto O. Domingo. After reviewing the recommendations presented in the 13<sup>th</sup> and 14<sup>th</sup> Annual Scientific Meetings, the committee decided to focus on the problem of population and the Filipino character as the key factors in the solutions of both control of the ecology and mitigation of disasters. This therefore was suggested as the topic for the 1993 Annual Scientific Meeting.

### 14<sup>th</sup> Annual Scientific (ASM) Meeting of the Academy

**Coping with Natural Disasters** was the NAST theme in its 14<sup>th</sup> ASM held on 1-2 October 1992 at the Philippine International Convention Center. The program of activities included the awarding ceremonies, investiture of Academicians, symposia, scientific sessions, and the poster session.

The symposia had six papers culminating with a list of recommendations presented to the participants. There were 36 papers presented orally while 17 posters were shown. (Appendices B, C, and D)

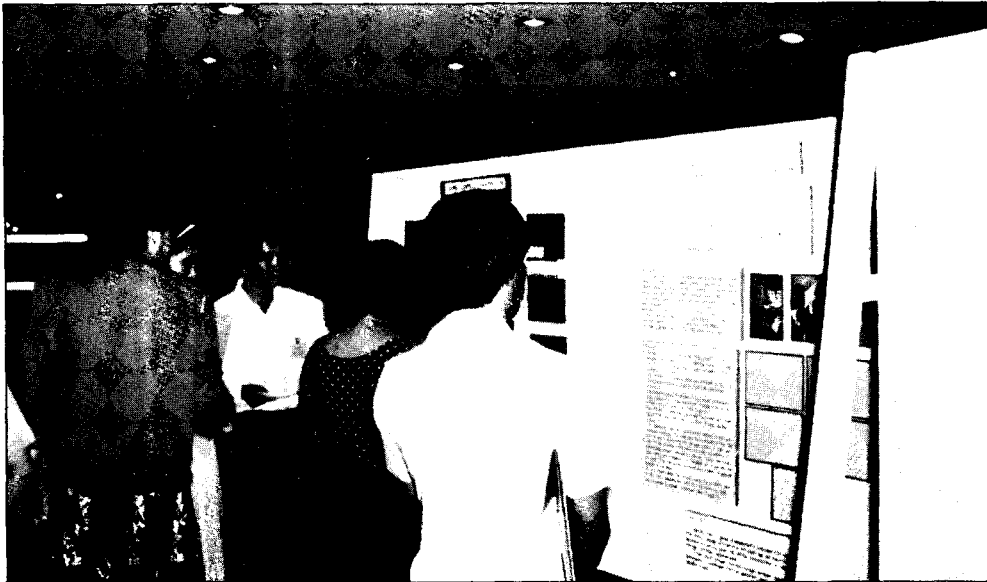


Dr. Gelia Castillo, Academician, raises a point of clarification during the open forum of the 1992 ASM.

Engineer Ceferino L. Follosco, former Secretary of DOST, gives a word of advise.



The usual crowd trying to get in at the last hour of registration.



Break time is also poster session at the lobby.

### (2.2) **Adhoc Committee on Code of Ethics**

The Council created a Committee on Code of Ethics for Researchers composed of Academicians Melecio S. Magno (Chairperson), Dolores A. Ramirez, Quintin L. Kintanar, and Dr. Rogelio Panlasigui. Sub-committees for various aspects of the code were also formed (Appendix E). The results of the reviews and recommendations of the subcommittee will be integrated by Academician Ramirez. The document will be presented in a series of roundtable conferences.

### (2.3) **Botanical Garden Committee**

The Committee being coordinated by Academician Magdalena C. Cantoria and headed by Dr. Domingo Madulid of the National Museum finalized the executive order establishing the National Botanical Garden (NBG) to be signed by President Fidel V. Ramos. The details of the plan for the NBG and its satellites were prepared.



The Botanical Garden Committee holds one of its meeting at the Casino Español, T.M. Kalaw, Manila.

(2.4) NAST Rice Task Force

In its final report, the NAST Rice Task Force suggested agenda for action on four specific areas of concern, namely: (a) Irrigation and Road Infrastructure, (b) Market Incentives, (c) Credit, and (d) Farmer Organizations. During the presentation by Dr. Liborio S. Cabanilla, where representatives from DOST, PhilRice, the Department of Agriculture, National Food Authority, and International Rice Research Institute (IRRI) were present, it was recommended that the project be continued with three institutions pledging financial assistance.



The Rice Task Force members with some farmers in Laguna

The Rice Task Force members visit the Phil Rice facilities in Nueva Ecija.



### **3. INTERNATIONAL LINKAGES**

(3.1) The Academy presently has linkages with seven national academies of sciences, namely: Third World Academy of Sciences (TWAS), Federation of Asian Scientific Academies and Societies (FASAS), International Network of Scientific Organizations (INSO), Chinese Academy of Sciences (CAS), Indian National Science Academy (INSA), German Research Society (DFG), and Royal Society of London (RSL). The Academy also strengthened its linkage with the American Association for the Advancement of Science.

(3.2) Five scientists visited the Philippines under this function:

- a. R.S. Kapil from India was here from February 3-12, 1992. He attended the "7<sup>th</sup> Asian Symposium on Medicinal Plants, Spices, and Other Natural Products" in UP Diliman and was able to exchange ideas with UP scientists particularly with those from the Marine Science Institute.
- b. Dr. John F. Peberdy from Nottingham University came to the Philippines at the request of the Industrial and Technology Development Institute (ITDI) in cooperation with NAST. He stayed from February 24 to March 9, 1992 and conducted a training course on fungal genetics at ITDI.
- c. Prof. Ilya Prigogine, Nobel Laureate in Chemistry, 1977, was the first lecturer of the Dioscoro L. Umali Lecture held in UP Diliman. The illustrious professor was also awarded a honorary doctorate degree by UP. He stayed here from August 15 to 19, 1992.
- d. Dr. Karam Singh Randhawa, Indian scientist, visited PhilRice, UP Los Baños and IRRI concerning rice hybrid seed production from September to October 8, 1992.
- e. Dr. Alan B.G. Lansdown visited the country on November 15 to 25, 1992 to exchange ideas with Filipino scientists and students through lectures, seminars, and visits to laboratories in UP Los Baños. He was also a speaker in the "8<sup>th</sup> Congress of the Federation of Asian Veterinary Associations."
- f. Academician Conrado S. Dayrit, Acting President, attended the 4<sup>th</sup> Conference of the TWAS in Kuwait on November 23 to 26 and the meeting of FASAS in Islamabad, Pakistan on November 26 to 28, 1992. He presented his report and recommendations to the NAST Executive Council and DOST officials.



Academician Conrado S. Dayrit attends the FASAS Council meeting in Islamabad, Pakistan.

(3.3) In coordination with FASAS, the Academy also created a Steering Committee chaired by Academician Carmen Ll. Intengan to handle the preparation for the International Conference on Food Preservation in 1994.

#### 4. **Publications**

The Academy produced three publications, namely: *1991 Annual Report*, *1990 NAST Transactions*, and Academician Lim-Sylianco's *Molecular Nutrition*.

#### 5. **Exchanges**

NAST continues the exchange of scientific materials with libraries of universities, national and regional government offices, and foreign agencies.

#### 6. **Library services**

NAST is strengthening its library services to be able to serve more Academicians and scientists of other institutions.

#### 7. **Exhibits**

The Academy's 1992 DOST Technology Fair exhibit focused on Academician Lim-Sylianco's research result on the "Inhibition on the Initiation Stage of Carcinogenesis of Coconut Oil, Coconut Meat, and Coconut Water".

## **8. ADMINISTRATIVE MATTERS**

### **(8.1) Officers**

After the death of National Scientist Dioscoro L. Umali, Academician Dayrit became Acting President, Academician Orillo, Acting Vice President and Academician Soriano, Secretary.

(8.2) Belatedly, on November 12, 1992, President Fidel V. Ramos appointed the new Executive Council members to replace the one whose 3-year term was completed. The new Council members are National Scientist Alfredo V. Lagmay, Academicians Filomena F. Campos, José O. Juliano, and Dolores A. Ramirez. Reappointed to the Council are National Scientist José Encarnación, Academicians Conrado S. Dayrit, and Faustino T. Orillo.

### **(8.3) The Secretariat**

Mrs. Belinda B. Davantes (Accountant) and Mr. Abdulrackman Mama (Information Officer II) transferred to the Commission on Audit and the Autonomous Region of Muslim Mindanao, respectively. Mr. Ferdinand C. Gutlay (casual) and Mr. Fulgencio D. Mojica (Information Officer III) resigned from NAST.

Mrs. Ma. Aurora V. Reig became NAST Accountant on October 15, 1992. Mrs. Gemma V. Enriquez became Information Officer III on November 2, 1992. NAST was able to hire two casuals, Mr. Wilson Manza and Mr. Manuel M. Vallejo.

Miss Luningning E. Samarita (Information Officer V) finished her master's degree in communication in April 1992.

Dr. Edwin A. Benigno (Director) and Miss Samarita attended the seminar on Information Technology on July 22 to 26, 1992 at Hotel Nikko Manila Garden.

## **9. SIDE-LIGHTS: ACADEMICIANS STILL ON THE GO**

Appendix F lists the publications and ongoing and recently concluded researches of Academicians.

NAST through its Academicians, is able to reach different government agencies in their capacity as consultants or members of different committees. Appendix G shows the Academicians who served in the Technical Committees of the Scientific Career Council.

Academician Clare R. Baltazar, entomologist and professor at UP Los Baños, published two books and two articles in the last five years, all about insects. She is also adviser-consultant of BPI, PCARRD, PHILSUCOM, PHILRICE, VISCA, and CLSU.

Academician Solita Camara-Besa is Professor Emeritus of biochemistry, UP College of Medicine. The most memorable award she received is the plaque of recognition for her commitment to medical education since 1938. She is active in the Zonta Feeding Program of malnourished children in Tondo, together with Academician Carmen Ll. Intengan .

A drug plant garden for instruction and research purpose is being maintained by Academician Magdalena C. Cantoria in UP Diliman. She is a Professor Emeritus at the UP College of Pharmacy. She was awarded an honorary membership by the Association of Systematic Biologists of the Philippines on May 30, 1992. Academician Cantoria was visiting professor of pharmacognosy at the Department of Pharmacognosy, Prince of Songkla University, Hat Yai, Thailand from June to October 1992.

Academician Gelia T. Castillo assumes post as chairman of the External Evaluating Team for the International Foundation for Science based in Stockholm, Sweden. She likewise holds the following positions (a) chairperson, WHO Tropical Disease Research Program on Prospective Thematic Review of the TDR's Scientific Directions, (b) member, Task Force on Health Research for Development, Geneva, (c) member, Board of Directors of INFORUM (International Forum for the Development of Land-Use Systems) based in Pennsylvania, and (d) member, Board of Trustees of the International Plant Genetic Resources Institute.

Newly-elected Academician Mercedes B. Concepcion, University Professor, is connected with the Population Institute, UP Diliman. Academician Concepcion holds the following positions: (a) member, WHO Scientific and Technical Advisory Group, Human Reproduction Program, (b) chairperson, NSCB Technical Committee on Population and Housing Statistics, and (c) chairperson, NSCB Technical Working Group on Population Projections.

NAST Acting President Academician Conrado S. Dayrit, was coordinator and principal investigator in an RP-Harvard Research and Development on Coconut Oil Project. He received three awards, namely: Distinguished Teacher's Award, Philippine College of Physicians; Distinguished Researcher Award, Philippine College of Physicians; and Distinguished Fellow Award, Philippine Heart Association.

National Scientist Fe del Mundo received two awards from the former North General Hospital (NGH) now the Dr. Jose Reyes Memorial Medical Center and the NGH School of Nursing.

UP Manila Chancellor Ernesto O. Domingo, Academician, received the title University Professor which is the highest university academic award. He is the fourth from among the Academicians who received the title (National Scientist José Encarnación, Jr., Academicians Gelia T. Castillo, Mercedes B. Concepcion and Clara Lim-Sylianco received the title ahead of him).

National Scientist José Encarnación, Jr., dean of the School of Economics, UP Diliman, completed a research on "Group Choice with Lexicographic Utility". It will be printed in the *European Journal of Political Economy*. He is presently doing a research on the optimum quantity of money. His most recent publication is "Portfolio Choice and risk", *Journal of Economic Behavior and Organization* 16 (1991), 347-353.

At present, Academician Pedro B. Escuro is Professor Emeritus, UP Los Baños and member of the UP Los Baños graduate school. In the last five years, he was a project leader of four projects on rice at PhilRice. Through Academician Escuro's leadership, the following were achieved: (a) identified HBA 12, an upland variety as the most outstanding from among 560 Philippine traditional and old upland varieties. (b) Ennano, a lowland variety was identified as most outstanding from among the 575 lowland varieties. (c) A total of 4,278 upland varieties have been evaluated in field nurseries until 1991. (d) One outstanding IRRI line (IR 10147-113-5-1-1-5) from the multilocation upland tests was released by the Philippine Seedboard in 1991. It was renamed PSB Re-1 with a common name Makiling. Its yield potential compares favorably with UPL Ri 5, an improved Seedboard upland variety. It matures in four months, is medium statured and is tolerant to most rice insect pests and diseases.

Academician Edito G. Garcia, professor emeritus of the College of Public Health, has two research projects both concerning the *Schistosoma japonica* and funded by international organizations. For the past five years, his researches resulted in pioneering work in the conception and demonstration that induction of anti-embryonation immunity is a major granuloma modulating mechanism which can prevent severe hepato-splenic schistosomiasis. This is the basis for the development of an anti-disease and anti-transmission vaccine. He is responsible for the development of molecular biology and immuno-parasitology research capabilities of the Department of Parasitology, College of Public Health, UP Manila. Acd. Garcia is a member of the WHO (Geneva) Expert Advisory Committee on Schistosomiasis.

The Executive Director of the Philippine Council for Aquatic and Marine Research Development (PCAMRD), Rafael D. Guerrero III, is one of the newly elected Academicians. His researches deal mostly on tilapia.

Academician Carmen Ll. Intengan completed a research project on the effectiveness of chemically structured triglycerides versus physical mixtures of the same oils in the rehabilitation of malnourished children.

At present, Academician Emil Q. Javier is the Director General of the Asian Vegetable Research and Development Center, Taiwan. As a research administrator, he succeeded in transforming a regional research institution into a global one. Academician Javier was instrumental in the articulation of a new strategic plan for the 1990's and the development of a medium term plan.

Academician Bienvenido O. Juliano has eight publications in 1992. He will be retiring from IRRI on June 30 1993. At present, he is a professorial lecturer at the Institute of Chemistry, UP Los Baños.

Academician Jose O. Juliano is the present president and general manager of InterPhil Laboratories, Inc.

National Scientist Alfredo V. Lagmay was named consultant and adviser to the vice-mayor of Manila for the city's renewal program on values education, tax collection, land enforcement and government policy.

National Scientist Luz Oliveros-Belardo, a dedicated scientist, is still continuing her work even after her retirement. She had completed her work on the compilation of gas chromatograms of essential oils distilled from 40 plant species. She was conferred the Conrado Benitez Heritage Award by the Philippine Women's University (PWU). The new PWU Faculty and Graduate Laboratory was dedicated to her on May 21, 1992. In service to the country, she gives free lectures, tutorials, and consultations to high school students.

Acting Vice President of NAST is Academician Faustino T. Orillo. He is also a member of the Special Technical Committee on Agricultural Sciences of the Scientific Career Council. He received a plaque of recognition for having served as Dean of the College of Agriculture from 1970 to 1973. Academician Orillo received the achievement award in the field of university administration and research given by the Department of Plant Pathology, UP Los Baños.

Academician Jose R. Velasco is a professor emeritus at UP Los Baños.

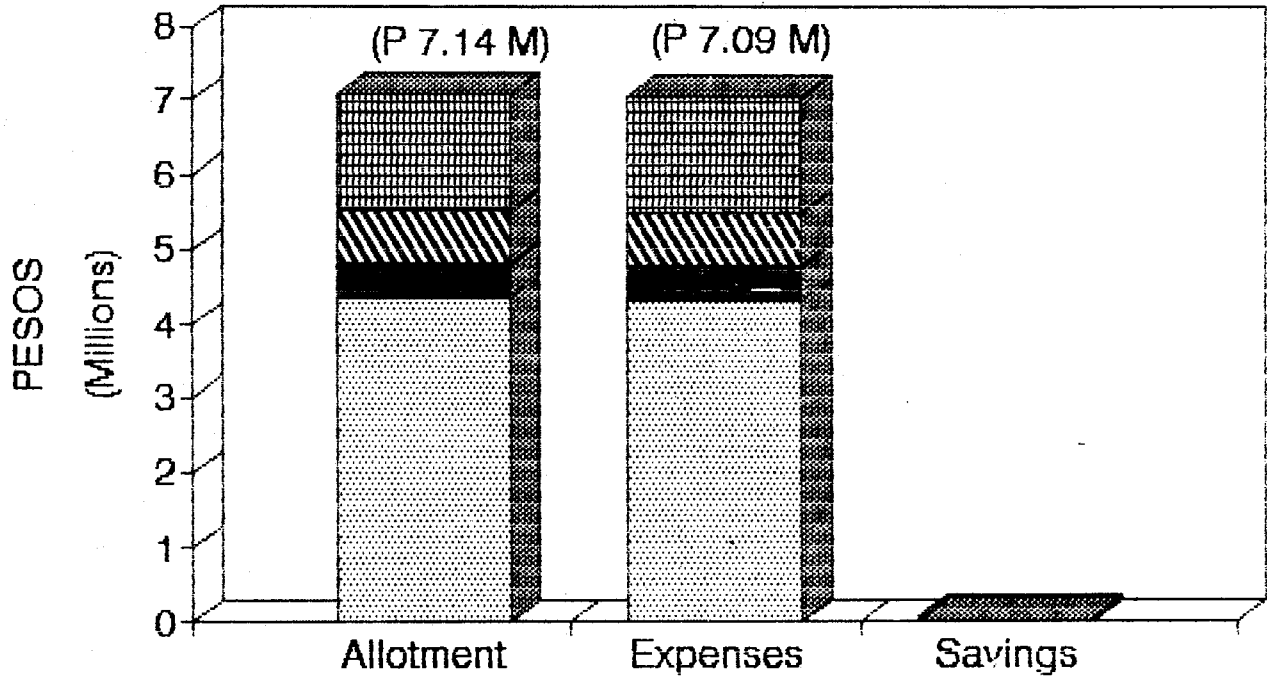
National Scientist Carmen C. Velasquez is a professor emeritus at UP Diliman. She is a member of the editorial board of the *Asian Sciences Journal*.

At present, Academician Benito S. Vergara is the Director for Administration and Plant Physiologist at IRRI.

Academician Prescillano M. Zamora, professor in the Institute of Biology, received the Jose Kabigting Santos Professorial Chairship in Botany, UP Diliman. Acd. Zamora has 25 publications published in the last five years, three of which were printed in 1992. He pioneered the work on the ecology and management of the mangrove ecosystem of Brunei Darussalam. He was able to add to present knowledge of the mangrove resources of the Philippines specifically for Calauag Bay at Quezon Province, Boracay Island at Panay and Cotabato Moro Gulf in Mindanao. He pioneered the work on the (a) biogeography developmental biology of Philippine cheilanthoid ferns, (b) effects of cement pollution on some Philippine economic plants, and (c) with multidisciplinary team of scientists, he worked on the evolution and formulation of management plans of ten priority protected areas in the Philippines.

# NAST BUDGET CY 1992

## BY FUNCTION/ACTIVITY



## COMMITTEE ON OUTSTANDING PUBLISHED PAPERS

Acad. Magdalena C. Cantoria - Chairperson  
 Acad. Tito A. Mijares - Member  
 Acad. Dolores A. Ramirez - Member

### Sub-committees

#### Mathematical, Physical and Engineering Sciences

Acad. Melecio S. Magno  
 Acad. Evelyn Mae T. Mendoza  
 Acad. Bienvenido F. Nebres, S.J.

#### Biological Sciences Division

Acad. Clare R. Baltazar  
 Acad. Carmen C. Velasquez  
 Acad. Prescillano M. Zamora

#### Social Sciences Division

Acad. Gelia T. Castillo  
 Acad. José Encarnación, Jr.  
 Acad. Alfredo V. Lagmay

#### Agricultural Sciences Division

Acad. Leopoldo S. Castillo  
 Acad. Faustino T. Orillo  
 Acad. Benito S. Vergara

#### Health Sciences Division

Acad. Paulo C. Campos  
 Acad. Edito G. Garcia  
 Acad. Quintin L. Kintanar

**SYMPOSIUM SPEAKERS - "COPING WITH NATURAL DISASTERS"**

NAME	ADDRESS	TITLE
LOURDES L. IGNACIO	Associate Professor Department of Psychiatry UP-PGH, Taft Avenue, Manila	Impact of Disasters on the Human Community
LEONCIO A. AMADORE	Science Specialist PAGASA, Quezon Avenue, Q.C.	Monitoring and Warning System and the Role of Media
JESSICA SOHO	Newscaster, Channel 7 EDSA, Quezon City	Monitoring and Warning System and the Role of Media
MILAGROS I. LLANES	Assistant Secretary Department of Social Welfare and Development Constitution Hills, Batasan Pambansa Complex, Q.C.	Organizing for Relief
OSCAR ZAMORA	Department of Agronomy Los Baños, Laguna	Approaches to Rehabilitation
JEROME F. SISON	Natural Resources Management Program, Emerald Avenue Strata 100, Pasig, M.M.	Economic and Policy Implications of Disasters
RAYMUNDO S. PUNONGBAYAN	Director, PHIVOLCS Hizon Bldg., Quezon Avenue Quezon City	Research Agenda for Disaster Mitigation

## PAPERS PRESENTED ON THE 14TH ANNUAL SCIENTIFIC MEETING

## MATHEMATICAL, PHYSICAL AND ENGINEERING SCIENCES

NAME	ADDRESS	TITLE
Reynaldo C. Castro	National Tobacco Administration Main Research Center Batac, Ilocos Norte	Passive Charging of a Solar Heat Storage System
Pio G. Yap, Jr.	UP College Tacloban Tacloban City	An Equational Energy Belt A Non-Intermittent Solar Energy System
Raoul E. Cawagas	SCITECH Research & Development Center Polytechnic University of the Philippines, Sta. Mesa, Manila	The Sign Matrix Concept and Some Applications in Abstract Algebra and Theoretical Physics
Edgar E. Escultura	IMSP, College of Arts & Sciences UPLB Los Baños, College, Laguna	The Mathematics of Singularities
Severino V. Gervacio	MSU-Iligan Institute of Tech. Tibanga, Iligan City	Singular Graphs: The Cartesian Product of Two Graphs
Marietta N. Aniano-Ila	De La Salle University Taft Avenue, Manila	Modification of Condensation Polymers for Soft X-ray Lithography
Florencio C. Ballesteros	National Engineering Center UP Diliman, Q.C.	An Evaluation of the Efficacy of Cementitious Solidification as Treatment Technology for Heavy Metal Waster
Linda S. Posadas	National Institute of Physics CS, UP Diliman, Q.C.	Investigation of Chlorophyll Fluorescence as Indicator of Leaf Senescence in Sitaw Plants

NAME	ADDRESS	TITLE
Chay B. Pham	BIOTECH, UPLB College, Laguna	Continuous Fermentation of Acetic Acid Production from Ethanol Using Cell Immobilized in Calcium Alginate Gel Beads
Fortunato Sevilla III	Research Center for the Natural Sciences UST, España, Manila	Chemical Transduction Through Field-Effect Transistors
Maricor Soriano	National Institute of Physics UP Diliman, Q.C.	Computer-based Metaphase Finding and Karyotyping of Human Chromosomes
<b>BIOLOGICAL SCIENCES</b>		
Virginia S. Cariño	Institute of Biology CS, UP Diliman, Q.C.	Localization of Zinc in the Gonadal Tissues of <i>Tilapia nilotoca</i> Linn.
Ernelea P. Cao	Institute of Biology CS, UP Diliman, Q.C.	Cultivar and Hybrid Characterization of Some Camella Hexaploids Using Isozyme Electrophoresis
Virginia C. Cuevas	Institute of Biological Sciences CAS, UPLB	Induction of Benlate Resistance for Improved Cellulase Production in <i>Trichoderma harzianum</i> Rifai
Annabelle A. Herrera	Institute of Biology CS, UP Diliman, Q.C.	Cardiac Structure in Chronically Stressed <i>Oreochromis niloticus</i>
Nellie C. Lopez	Institute of Biology CS, UP Diliman, Q.C.	Metazoan Parasites of <i>Glossogobius giurus</i> (Hamilton-Buchanan) from Naujan Lake, Oriental Mindoro

NAME	ADDRESS	TITLE
Imelda F. Pagulayan	Institute of Biology CS, UP Diliman, Q.C.	The Effects of Excised Cerebral Ganglia Extract on Growth of <i>Achatina ferussac</i>
Glorina N. Pocsidio	Institute of Biology CS, UP Diliman, Q.C.	The Antifungal Activity of the Holothurin of Philippine Littoral holothurians
Tanya Z. Reichert	College of Science, UP Diliman	Comparative Studies on the Morphology and Isoenzyme Patterns of Six Philippine <i>Acanthamoeba</i> Isolates
Adoracion T. Arañez	NSRI, SC. UP Diliman, Q.C.	The Effects of Red, Blue, and White Light on Gamma-Irradiated Nostoc
<b>AGRICULTURAL SCIENCES</b>		
Ruben L. Villareal	College of Agriculture UPLB, College, Laguna	Revolutionary Genes in the Genus <i>Lycopersicon</i>
Zosimo M. Battad	Mariano Marcos State Univ. Batac, Ilocos Norte	Effects of Different Cutting Heights and Intervals on the Yield and Nutritive Value of <i>Desmanthus virgatus</i> (L.) Willd
Franco T. Bawang	Benguet State University La Trinidad, Benguet	Utilization of Pine Needles as Mulch: Their Effects on Weeds and the Germination, Growth, Yield and Some Postharvest Qualities of Pechay, Snapbean, and Tomato

NAME	ADDRESS	TITLE
Jocelyn P. Cabrera	NVSIT, College of Fisheries Bayombong, Nueva Vizcaya	Growth Estimation of <i>Oreochromis niloticus</i> (L.) Cultured in Rice Paddies Using Circ Technique
Romulo C. Cambaya	DA, Region V. San Agustin Pili. Camarines sur	Study on the Utilization of Indigenous Sources of Fertilizer Materials in the Bicol Region for Soil Amendments and Crop Productivity
Esperanza Celino-Gamide	Bicol Experiment station DA, Pili, Camarines Sur	Nature of Indigenous Rhizobia from <i>Arachis hypogaea</i> L. in Some Bicol Soils
Paz Patria G. Lobo	DA, Region V, San Agustin Pili. camarines Sur	Evaluation of Starflower ( <i>Calotropis gigantea</i> ) Against Golden Apple Snail ( <i>Pomacea canaliculata</i> ) in Lowland Transplanted Rice
Jorge G. Valdez, Jr.	Pampanga Agricultural College Magalang, Pampanga	Soil Loss and Run-Off as Affected by Strips of Ipil-Ipil Planted Along Contours of Sloping Cultivated Lands
Belen A. Zaragoza	Bicol Experiment Station DA, Pili, Camarines Sur	Etiology of the Yellowing and Wilt Disease of Black Pepper ( <i>Piper nigrum</i> L.) Including Biocontrol

## HEALTH SCIENCES

NAME	ADDRESS	TITLE
Danilo P. Delfin	Philippine Heart Center East Avenue, Quezon City	Quantitative Echocardiographic Structural Analysis of the Left Ventricle (LV) After Intensive Endurance Training Among Filipino Athletes
Jose Alvin P. Mojica	Dept. of Rehabilitation Medicine UP-PGH Taft Ave. Manila	The Relationship Between Exercise Capacity and Perceived Well-being in Elderly Patients with Coronary Artery Disease Undergoing Supervised Physical Conditioning
Clara Y. Lim Sylianco	Institute of Chemistry CS, UP Diliman, Q.C.	Inhibition of the Initiation Stage of Carcinogenesis by Coconut Oil, Coconut Meat, Coconut Milk, and Coconut Water
Rolando G. Garcia	Institute of Biology CS, UP Diliman Q.C.	The Effect of "Neem" ( <i>Azadirachta indica</i> A. Juss) Plant (Family Meliaceae) on the Ontogenetic Stages of <i>Schistosoma japonicum</i> , Katsurada, 1904 and Its Interme- diate Host <i>Oncomelania hupensis</i> <i>quadrasi</i> (Davis)

## SOCIAL SCIENCES

NAME	ADDRESS	TITLE
Fe D. Laysa	DA, Region V. San Agustin Pili, Camarines Sur	The Porbaran Experience: Increasing Farmer's Participation in Technology Generation and Utilization
Nina T. Castillo	Dept. of Social Science CAS, UPLB, College, Laguna	The Socio-Cultural-Psychological Milieu of Tuberculosis in the Philippine Context
Luis C. Dery	UP College, Baguio City	Sina Raha Katunao, Lakandula Tupas at Matanda: Isang Pag-aaral sa Kanilang Kasaysayang Pampamilya at ang Papel na Ginampanan Nila Sa Kasaysayan ng Pilipinas Noong Panahon ng Kastila

## POSTERS PRESENTED DURING THE 14TH ANNUAL SCIENTIFIC MEETING

## BIOLOGICAL SCIENCES

NAME	ADDRESS	TITLE
Victor Amoroso	College of Arts and Sciences Central Mindanao University University Town, Musuan Bukidnon	Some Edible Ferns in Bukidnon
Elena S. Catap	Institute of Biology CS, UP Diliman, Q.C.	Quantitative and Qualitative Changes in the Skeletal Muscle Acetylcholinesterase Activity of <i>Oreochromis niloticus</i> Exposed to Methyl Parathion
Arsenia A. Casauay	Natural Science Research Inst UP Diliman, Quezon City	Changes in the Peripheral Blood and Hemopoietic Tissues in the Trunk Kidney of Nile Tilapia ( <i>Oreochromis niloticus</i> ) after Acute Exposure to Zinc
Esperanza Celino-Gaminde	Bicol Experiment Station DA, Pili, Camarines Sur	Biological Control of <i>Rhizoctonia solani</i> Kuhn by Fungal Antagonist ANF-777
<b>SOCIAL SCIENCES</b>		
Dolores G. Garcia	31 Road 8 GSIS Hills Talipapa, Novaliches, Q.C.	Enhancing Validity Through Consistency Between Instruction and Evaluation Procedures

AGRICULTURAL SCIENCES		
NAME	ADDRESS	TITLE
Norma O. Aguilar	IBS, CAS, UPLB, Laguna	Nodulation Among the Leguminosae in the Philippines
Nestor T. Baguion	Dept. of Forest Biological Sciences, College of Forestry UPLB, College, Laguna	Survey of Nodulation of Philippine Tree Legumes
Federico G. Villamayor	Philippine Root Crop Research and Training Center VISCA, Baybaym Leyte	Sweet Potato Cutting Length Appropriate for Volcanic Ash-Covered Soil
Roberto T. Bonoan	National Tobacco Administration Main Research Center Batac, Ilocos Norte	Quick Sap Test for Optimization of Vegetable Nitrogen Nutrition
Leonor Elizabeth Balito	National Tobacco Administration Main Research Center Batac, Ilocos Norte	Fertility Classes of Soils and Quality of Irrigation Water in Tobacco-Growing Areas in the Philippines
Edwin A. Benigno	NAST/DOST Bicutan, Taguig, M.M.	GENMOD: A Generalized Insect Population Model
HEALTH SCIENCES		
Steven Bacalian	62 L. Burgos Street La Paz, Iloilo City	Locally Made Ventriculo-Peritoneal Shunt System

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ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
DAYRIT, Conrado S.	Coordination and Principal Investigator, RP-Harvard research and development coconut oil project (with Harvard Panel-Drs. Blackburn and Babayan; Philippine Panel - Drs. Intengan, P. Navarro, M. Macapinlac Lopez and R. Cruz- Sevilla and Mr. E. Canapi		<p>a) Dayrit, C, Florentino R, Blackburn, G, Mascioli, E and V Babayan: Coconut Oil Revisited. JPMA Vol 65 (1) 140-143, July-Sept 1989. Also published in Coconut Today, special issue for XIth World Congress of Cardiology, Manila, Feb. 11-16, 1990</p> <p>b) Lopez, M. Gonzaga, C and Dayrit, C, Arindaeng, J: Hypotensive Effect of Parenteral Nicardipine Among Uncomplicated Severe Hypertensives Phil. J. Cardiology, No. 003 July-Aug.-Sept. 1990, pp 561-564</p> <p>c) Dayrit, C: On Aging, Old Age and Senility. JPMA Vol 65(3) 295-311 Jan.-Feb. 1990 issue and JPMA Vol. 65(4) 357-363, Apr.-June 1990</p> <p>d) Intengan, C, Dayrit, C, Cawaling, T, Zalamea and Pesigan, J: Structured Lipid of Coconut and Corn Oils vs. Soybean Oil in the Rehabilitation of Malnourished Children - A Field Study. PJIM May-June 1992 issue and JPMA Jan.-June 1992 issue</p> <p>e) Kaunitz, H and C Dayrit: Coconut Consumption and Coronary Heart Disease. PJIM May-June 1992 issue and JPMA Jan.-June 1992 issue</p>

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ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
DOMINGO, Ernesto O.	<p>a) Field Trial of Single-Dose vs. Three-Dose Hepatitis B immunization in Preventing the HBsAg Carrier state</p> <p>b) Immunogenicity of Varying Doses and Schedules of Plasma Derived Vaccine in Filipino Infants</p> <p>c) Longitudinal Studies of <i>Schistosomiasis japonica</i> in the Philippines; the Long Term Impact of Annual Chemotherapy on Infection, Transmission and Morbidity</p> <p>d) Community Based, Age- Specific Prevalence of Gallstone in the Philippines</p> <p>e) Interruption of Maternal-Child HBV Transmission: A comparison of Various Regimens Using Hepatitis B Immunoglobulin and Hepatitis B Vaccine</p> <p>f) Immunogenicity of a Yeast-Derived Recombinant DNA Hepatitis B Vaccine in Filipino Children</p>	<p>a) Alpha-Interferon in Chronic Hepatitis B; principal investigator, Schering-Plough Co., 1991 to date</p> <p>b) Prevalence of Antibodies to Hepatitis C Virus Among Risk Groups in the Philippines; principal investigator, PCHRD, UP Foundation, Inc., 1991 to present</p>	<p>a) Domingo EO, Lingao AI, Panopio IT, Montejo MG, Lansang MA. Immunogenicity of varying doses and schedules of plasma-derived vaccine in Filipino Infants, <i>J Gastro &amp; Hep</i> 7: (Suppl) 94, 1992.</p> <p>b) Lansang MA, Domingo EO, Alegui G, Dayrit E, Bagasao B. Hepatitis B vaccine delivery within the expanded program of immunization; testing effectiveness in the context of health systems research. Proc of the IX INCLEN Intern Meeting. Bali, Indonesia 1992.</p> <p>c) Domingo EO, Lansang MA, Dominguez C, Ramirez BL, Alegui G, Montejo M, Vinuslado E, Rogel N. Seroprevalence of antibodies to hepatitis C among blood donors and recipients in the Philippines. The 4th intern Symp Japan Soc. of Gastro. Utsunomija, Japan 1992.</p>
ENCARNACIÓN, José Jr.	<p>a) "Group choice with lexicographic utility," <i>European Journal of Political Economy</i>, forthcoming.</p>		<p>a) "Portfolio choice and risk," <i>Journal of Economic Behavior and Organization</i> 16 (1991), 347-353.</p>

## ACADEMICIANS' REPORT

ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
GARCIA, Edito G.		<p>a) Dissection of the <i>Schistosoma japonica</i> with the ultimate objectives of developing a vaccine to prevent infection and immuno-assay for diagnosis. Responsible Technical Officer. Funded by UNDP/World Bank/WHO-Special Programme for Tropical Diseases from 1980 to present.</p> <p>b) Analysis of anti-embryonation immunity and development of anti-pathology and anti-transmission vaccine organ <i>S. japonicum</i>. Responsible Technical Officer. Funded by office of the Science Advisor U.S. AID, Washington, D.C. Sept. 1, 1991 to Aug 30, 1994</p>	<p>a) Van't Wour Ab, de jonge N, Tiu WU, Garcia EG, Mitchell GF, and Deeldee AM. (1992) Schistosome circulating anodic antigen (CAA) in serum of individuals infected with <i>Schistosoma japonicum</i> from the Philippines before and after chemotherapy with praziquantel. Reans R Soc. Trop Med Hyg, 86:410-413.</p>
INTENGAN, Carmen LI,	<p>a) Effectiveness of chemically structured triglycerides (coconut oil-corn oil 75:25) vs. physical mixtures of the same oils in the rehabilitation of malnourished children.</p>	<p>a) Field Studies on Structured Lipid-(Coconut-oil-corn oil), 1989 to present Project Leader</p>	<p>a) Structured Lipid of Coconut and Corn Oils vs. Soybean Oil in the Rehabilitation of Malnourished Children - A Field Study.</p>

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ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
JULIANO, Bienvenido	<p>a) Variation in Thermal and Mechanical Properties of Concentrated Rice Starch Gels. Food chem. (for publication).</p> <p>b) Thermal Properties of Milled Rice Starch as Influenced by Variety and Par-boiling Methods, Cereal Chem.</p> <p>c) Protein and Lysine Digestibility and Protein Quality of Cooked Filipino Rice Diets and Milled Rice in Growing Rats. Plant Foods Hum. Nutr, 43.</p> <p>d) Resistant Starch, and Indigestible Energy and Protein of Milled Rice in Growing Rats. J. Cereal Sci.</p> <p>e) Starch, Energy and Protein Utilization in Rats of Milled Rice of IR36-based Amylose-Extender Mutant. Cereal Chem. 70</p> <p>f) Structural Changes in Non-waxy Starch during Development of the Grain. Proceedings, International Symposium on Plant polymeric Carbohydrates, Berlin 1-3 July 1992.</p> <p>g) Improving Food Quality of Rice. International Crop Science I. DRBuxton et al, ed. Crop Science Society of America, Madison, WI.</p>		<p>a) Juliano BO (1992) Rice starch Properties and Grain Quality. J. Starch and related Carbohydrates and Enzymes 39:11-21.</p> <p>b) Juliano BO (1992) Review of structure, Chemistry, and function of the Rice Grain and its Fractions, Cereal Foods World 37:772-774, 776-779.</p> <p>c) Juliano BO (1992) Rice (<i>Oryza sativa</i>). Pages in Encyclopaedia of Food Science, Food Technology and Nutrition, M Macrae, R. Robinson, M Sadler, ed. Academic Press Ltd., London (in press).</p> <p>d) Juliano BO, Villareal CP (1992) Grain Quality Evaluation of World Rices. International Rice Research Insitute, Manila, Philippines (in press).</p> <p>e) Murugesan G, Hizukuri S, Fukuda M, Juliano BO (1992) Structure and properties of waxy-rice (IR29) starch during development of the grain. Carbohydrate. Res. 223-235-242.</p> <p>f) Panlasigui LN, Thompson LU, Juliano BO, Perez CM, Jenkins DJA, Yiu SH (1992) Extruded rice noodles: Starch</p>

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ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
	<p>h) Rice and rice by-products. In Philippine Science Encyclopedia - Chemistry. EJ del Rosario, ed. NRCP</p> <p>i) Rice straw. In Philippine Science Encyclopedia - Chemistry. EJ del Rosario ed. NRCP</p> <p>j) Rice. In Identification of Food Grain Varieties, CW Wrigley, ed. American Assoc of Cereal Chemists, St. Paul, MN</p> <p>k) Utilization of Rice Functional Properties to Produce Rice Food Products with Modern Processing Technologies. Int. Rice Comm. Newslett (sp. issue)</p> <p>l) Critical moisture content for fissuring of IR rough rice. Cereal Chem.</p> <p>m) Screening for stable high headed rice yields in rough rice. Cereal Chem.</p> <p>n) Milled rice and starch properties of IR36-based high amylose mutant. Proceedings 9th International Cereal and Bread Congress Rice Symposium, Paris, 4 June 1992</p> <p>o) Differentiation of US and other country milled rices by RP-HPLC. Seed Science Tech.</p> <p>p) RP-HPLC for variety identification in cereals and legumes: rice. In HPLC of Cereal Proteins and Legumes, ed. American</p>		<p>digestibility and glycemic response of healthy and diabetic subjects with different habitual diets, Nutr. Res. 12:1195-1204.</p> <p>g) Resurreccion AP, Li XX, Okita TW, Juliano BO (1992). Characterization of poorly digested protein of cooked rice protein bodies. Cereal Chem. 69: (in press).</p> <p>h) Unnevehr LJ, Duff B, Juliano BO, ed. (1992) Consumer Demand for Rice Grain Quality. International Rice Research Institute, Manila, Philippines-International Development Research Centre (in press).</p>

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ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
OLIVEROS-BELARDO, Luz	<p>Assoc of Cereal Chemists.</p> <p>q) Hardness of cooked milled rice by instrument and sensory methods. <i>J. Text.</i></p> <p>r) Amylopectin staling of cooked nonwaxy milled rices and their starch gels. <i>Cereal Chem.</i></p> <p>s) Comparative starch synthase activity of Indica an Japonica developing rice Grain. <i>Starch 45.</i></p> <p>t) Varietal differences in amylopectin staling of cooked waxy milled rices. <i>Cereal Chem.</i></p>	<p>a) Principal Investigator &amp; Project Leader, Further Studies on the Major Components of the Leaf Volatile Oil of <i>Nothopanax fruticosum</i> (L) Miq. 1990 - present.</p>	<p>a) "Volatile Compounds from the Fruit Peelings of <i>Diospyros discolor</i> Willd." by Smith, Roger M. and Luz Oliveros-Belardo, <i>Journal of Essential Oil Research</i>, 1992, Vol. 4, No. 3, 287-289.</p>
	<p>a) Gas liquid chromatography of essential oils distilled from the rhizomes of seven Philippine Zingiberaceae plants.</p> <p>b) Gas liquid chromatography of essential oils distilled from leaf/rind of six Philippine citrus plants.</p> <p>c) Observations on the drippings from flowers of the coconut tree with respect to ethanol content and time of collection.</p> <p>d) The presence of ternary alkaloids in the roots of <i>Jasminum sambac</i> (L.) Ait. collection in Central Luzon.</p>		

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ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
ZAMORA, Prescillano M.	<p>e) Some manifestations of toxicity in the use of root extract of <i>Jasminum sambac</i> (L.) Ait.</p> <p>a) Zamora PM, S Chaimongkol, C Beltran-Amoroso, and M Marzan 1992. Structure and development of the gametophytes of Philippine cheilanthoid ferns, I. <i>Cheilanthes dilimanensis</i> Zamora. (Preprint)</p> <p>b) Zamora, PM, C Beltran-Amoroso, S Chaimongkol, and M Marzan 1992. Structure and development of the gametophytes of Philippine cheilanthoid ferns, II. <i>Cheilanthoid javensis</i> (Willdenow) Moore. (Preprint)</p> <p>c) Zamora, PM, S Chaimongkol, and M Marzan 1992. Structure and development of the gametophytes of Philippine cheilanthoid ferns, III. <i>Cheilanthes concolor</i> (Langsdorff et Fischer) R Tryon. (Preprint)</p> <p>d) Zamora, PM, C Beltran-Amoroso, S Chaimongkol, and M Marzan 1992. Structure and development of the gametophytes of Philippine cheilanthoid ferns, IV. <i>Cheilanthes tenuifolia</i> (Burmam f.) Swartz. (Preprint)</p> <p>e) Zamora, PM 1992. Biogeography and seasonality of occurrence of Philippine cheilanthoid ferns. (Preprint)</p> <p>f) Zamora, PM, and R Antonio, Ontogeny of the</p>	<p>a) Project leader. Embryogenesis in <i>Pittosporum resiniferum</i> Hemsl. Granted by UP NSRI from Jan. 1, 1990 to 31 Dec. 1992</p>	<p>a) Zamora, PM 1992. Mangrove resources of Brunei Darussalam: Status and management, pages 39-58. In: G Silvestre, HJH Matdanan, PHY Sharifuddin, MWRN de Silva and TE Chua (eds). The coastal resources of Brunei Darussalam: Status, utilization, and management. International Center for Living Aquatic Resources Management Conference, Proceedings 34; 1-214.</p> <p>b) Zamora, PM (contributor with others) The integrated management plan for the coastal zone of Brunei Darussalam. Dept. of Fisheries, Ministry of Industry and Primary Resources, Brunei Darussalam. International Center for Living Aquatic Resources Management 778: 1-122.</p> <p>c) Zamora, PM (contributor with others) Saving the Present for the Future: The State of the Environment. State of the Nation Reports. UP Center for Integrative and Development Studies and UP Press 54 pages</p>

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ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
BALTAZAR, Clare R.	<p>sporangium of <i>Nephrolepis hirsutula</i> and <i>Leucostegia immersa</i>. (In press)</p> <p>g) Zamora, PM, and R Antonio, Sporangial morphology in Philippine davalioid and oleandroid ferns. (In press)</p> <p>h) Zamora, PM, and VB Bagaoisan-Cosico. Shoot apical meristem organization in several Philippine species of <i>Selaginella</i>. (Preprint)</p> <p>i) Zamora, PM and VB Bagaoisan-Cosico. Development of the megasporangium of <i>Selaginella philippina</i> Spring. (In press)</p> <p>j) Zamora, PM, BC Tan, VB Bagaoisan-Cosico, RA Balagat, and MRF Mercado. Strobilar organization in Philippine species of <i>Selaginella</i>. (Preprint)</p>	<p>a) Study Leader, "Biological control of ipil-ipil psyllid using exotic natural enemies", IDRC/PCARDD funding, 1989-1992 (with Ms. A.A. Capricho, co-researcher) - final report in preparation.</p> <p>b) Project Leader, "Study of two egg predators of the ipil-ipil psyllid" Winrock/PCARRD funding, 1989-1992 (with Ms. V.C. Fernando, co-researcher) - final report in preparation.</p> <p>c) Project Leader, "An inventory of Philippine Insects", NAST Fellowship, 1988-present. Vols. I &amp; II are published, Vols. III &amp; IV are in preparation.</p>	<p>a) Baltazar, C.R. Current Biological Control Activities in the Philippines. In <i>Biological Control in South and East Asia</i>. Kyushu Univ. Press, 1992, pp. 43-50</p>

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ACADEMICIAN	RESEARCHES COMPLETED	ONGOING RESEARCHES	PAPERS PUBLISHED IN 1992
CANTORIA, Magdalena C.		<p>a) Co-proponent, "A Pharmacognostical Study of Philippine Forest Vines with reported Biological Activity: Study II - <i>Derris</i> spp. and <i>Entada</i> spp.". Research Project No. D-115 awarded by NRCP to Domingo A. Madulid, PhD., and Magdalena C. Cantoria, PhD., 01 Oct. 1991 to 30 Sept. 1992.</p> <p>b) Part-time Researcher, "Investigation of the Poisonous Principles of <i>Euphorbia continafolia</i> L.", NRCP-assisted Research Project No. D-116, 01 Nov. 1991 to 31 May 1992.</p> <p>c) NAST Research fellowship to undertake studies on the Morphology and Anatomy of Botanical Drugs Yielding Volatile Oils, 1 Dec. 1991 to 31 May 1992, 01 Nov. 1992 to 30 Apr. 1993.</p>	
CONCEPCION, Mercedes B.	<p>a) The Situation of Elderly Women: Available Statistics and Indicators</p> <p>b) Philippine Fertility: Decline or Retardation?</p> <p>c) Demographic Situation and Outlook: ESCAP Region</p>	<p>a) Philippine Population Projections, 1990-2040</p> <p>b) Philippine Demographic Indicators, 1990-2040</p>	

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GUERRERO, Rafael D. III	a) Effect of Oral Treatment of Mibolerone on Sex Reversal of Nile Tilapia Fry	a) Project Leader, "Hatchery and Culture of the Freshwater Mussel, <i>Cristaria plicata</i> , Suburn University, 1992-93.	a) Guerrero, RD 1992: Conserving Our Marine resources, Agribusiness papers. Center for Research and Communication. 3: 6-7.
VELASCO, Jose R.	a) Effects of the Rare Earths and Chromium on the Growth of Coconuts	a) The cadang-cadang of coconuts as a form of environmental stresses. Principal Researcher. Funded by UPLB General Fund. 1985 to date	
VELASQUEZ, Carmen C.		a) Index Catalogue on Parasites of Philippine vertebrates	
RAMIREZ, Dolores A.		a) Cytogenetics of interspecific hybrids in the genus <i>Zea</i> . b) Gene Mapping of Mungbean ( <i>Vigna radiata</i> ). c) Induction of Genetic Variability in Field Legumes Through Wide Hybridization and Mutagenesis: Mungbean and Soybean. d) Cytogenetics of Interspecific Hybrids of Mungbean and Its Wild Relatives.	a) Nevado, Jose Jr. S. and D.A. Ramirez 1992. Cytology of <i>Muntingia calabura</i> L. Phil. J. Crop Science (in press)

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RESEARCHES COMPLETED

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e) Cytological Survey of Vegetable and Fruit  
Crop Species Indigenous to the Philippines.

f) Cytogenetics of Interspecific Hybrids of  
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