

# 2007 Annual Report



A PROGRESSIVE PHILIPPINES ANCHORED ON SCIENCE



**NATIONAL ACADEMY OF  
SCIENCE AND TECHNOLOGY  
(NAST) PHILIPPINES**

# Annual Report

National Academy of Science and Technology, Philippines

2007



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## Message from the President

Guided with its vision of "A Progressive Philippines Anchored on Science", the National Academy of Science and Technology (NAST) perseveres in its endeavors to bring the gifts of science and technology to our people.



As in previous years, NAST gathered experts and researchers from public and private institutions to discuss issues of national relevance.

The Annual Scientific Meeting, steered by the Chemical, Mathematical and Physical Sciences Division, focused on the modalities of building a culture of science in the country. The Academy convened roundtable discussions and fora on issues such as science and mathematics education, biosafety, biofuels, water issues, virgin coconut oil, rice post harvest, bioremediation, animal health, nuclear power, engineering and services which resulted in the formulation of specific policy interventions and proposed legislation. NAST also continued its advocacy for the modernization of the rural sector by a series of follow-up round table discussions on four of the 18 agro-industry clusters in Philippine Agriculture 2020.

Through its recognition function, three accomplished scientists were elected to the Academy: Dr. Christopher Bernido (Theoretical Physics), Dr. Leonardo Q. Liongson (Water Resources Administration and Hydrology), and Dr. Allan Benedict I. Bernardo (Cognitive Psychology). Dr. Liwayway Engle, a plant geneticist in the World Vegetable Center in Taiwan, was elected as Corresponding Member. Ten young scientists were bestowed the Outstanding Young Scientists award for their exemplary works in their fields of expertise. Likewise, recognition was given to other outstanding scientific and technology endeavors.

2007 witnessed the signing of an agreement with the Korean Research Foundation to promote exchange of scientific information and visits between scientists and researchers of Korea and the Philippines. As a first activity, the NAST Executive Director participated in a workshop on capacity building in research management hosted by the KRF.

Also NAST together with DOST welcomed a delegation from the National Science Council of Taiwan to firm up RP-Taiwan scientific cooperation in the natural sciences and life sciences.

A handwritten signature in black ink, reading "Emil Q. Javier". The signature is written in a cursive, flowing style.

**ACD. EMIL Q. JAVIER**  
President

## EXECUTIVE SUMMARY

As the highest advisory and recognition body in science and technology, the National Academy of Science and Technology is honored to present the accomplishments of the Academy and the achievements of the members of the Academy for 2007.

The Academy continued its commitment to pursue its mandate to provide science-based policy advice to the state, society and the nation, to recognize outstanding achievements, and to link with similar scientific academies and organizations locally and internationally.

Highlighting the activities in 2007 is the 29<sup>th</sup> Annual Scientific Meeting with the theme "A Progressive Philippines Anchored on Science: Building a Culture of Science in the Philippines". The discussions were focused on possible strategies that can accelerate the building of a culture of science in the country. There were six plenary sessions, with topics dealing with issues and concerns plaguing science and mathematics education in the country. Two resolutions were presented and later endorsed to DOST Secretary Estrella F. Alabastro and DepEd Undersecretary Ramon Bacani. The two-day affair was attended by a total of 981 and 1126 guests and participants on the first and second day, respectively.

Under the NAST's recognition function, four accomplished scientists were elected to the Academy: Dr. Christopher Bernido, Dr. Leonardo Q. Liongson and Dr. Allan Benedict I. Bernardo as Academicians and Dr. Liwayway Engle as Corresponding Member. The whole academy was saddened by the demise of three esteemed members of NAST: National Scientist Jose R. Velasco, National Scientist Paulo C. Campos and Academician Conrado S. Dayrit.

Young scientists were given due recognition for their exemplary works in their fields of expertise through the Outstanding Young Scientist, TWAS Award for Young Scientist in the Philippines, NAST Talent Search for Young Scientist, NAST-Hugh Greenwood Environmental Science Award, and Magsaysay Young Engineers/Technologists Competition. Likewise, NAST provided meaningful incentives to other outstanding scientific and technological endeavors through the Outstanding Scientific Paper and Outstanding Book and Monograph Awards.

At the request of the Department of Science and Technology, NAST handled the conferment of awards and recognition to individuals and institutions that have made significant accomplishments and contributions to the generation of knowledge and technologies, utilization of research results, and the promotion of S&T in the country during the National Science and Technology Week.

Eight publications were released to serve as resource materials for policymakers, researchers, the academe and other stakeholders.

The Academy continues to explore and strengthen its international and local scientific linkages. This year, NAST forged an agreement with the Korean Research Foundation that would benefit the scientists and researchers of both countries.

NAST also celebrated the centennial birth anniversary of National Scientist Geminiano T. de Ocampo, known as the Father of Modern Philippine Ophthalmology. A series of activities was lined up during the celebration. This included the opening of the Geminiano de Ocampo exhibit at the Philippine Science Heritage Center.

The achievements and accomplishments of the Academy and its individual members would not be possible without the unending support and trust of the scientific community. We are pleased to present these accomplishments as part of our commitment in achieving our vision "A progressive Philippines Anchored on Science".



**RECOGNITION FUNCTION**

# RECOGNITION FUNCTION

As the government's highest recognition body in science and technology, the Academy awards Filipino scientists for scientific and technological accomplishments. Through NAST, the government extends its all-out support to Filipino scientists by recognizing their significant contributions to science and by providing them meaningful incentives for the furtherance of their work. NAST also encourages the younger generation to pursue careers in advanced scientific studies and researches.

## Awards

### National Scientist Rank and Title

The Order of National Scientist is the highest honor being given to a Filipino man or woman of science by the President of the Republic of the Philippines. To date, the Academy has been able to produce 31 National Scientists, only 10 of whom are still living.

### Membership to the Academy

#### **Academicians**

Membership to the Academy is by peer recognition. Nominees should be resident Filipino scientists who have demonstrated and earned distinction in independent research and significant innovative achievements in the basic and/or applied sciences. To be elected to the Academy, a scientist must receive at least 50% plus one vote of the total membership of NAST.

Three distinguished scientists were conferred with the title of Academician on 12 July 2007 at the Manila Hotel during the 29<sup>th</sup> Annual Scientific Meeting.



Clare R. Baltazar



Gelis T. Castillo



Lourdes J. Cruz



Onofre D. Corpuz



Fe del Mundo



Bienvenido O. Juliano



Ricardo M. Lantican



Clara Y. Lim-Syllanco



Dolores A. Ramirez

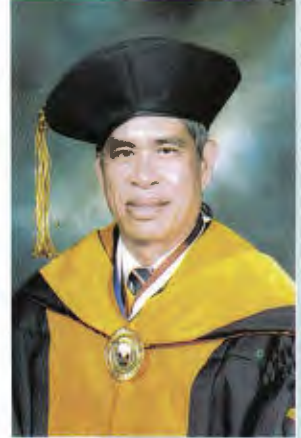


Benito S. Vergara



**CHRISTOPHER C. BERNIDO, Ph.D.**  
**Theoretical Physics**  
**State University of New York at Albany**  
**New York, USA, 1982**

In recognition of his research achievements in Theoretical Physics cited in advanced physics publications including the Handbook of Feynman Path Integrals; his participation in the international scientific community as conference convenor, speaker, journal referee, reviewer and editorial board member, his commitment to the development of physics teaching and research in the Philippines as Founding Director of the Research Center for Theoretical Physics, Central Visayan Institute Foundation (CVIF) in Jagna, Bohol and as former Director and Professor of the National Institute of Physics, University of the Philippines Diliman, and his dedicated efforts to improve basic education through the innovative CVIF Dynamic Learning Program which has been adopted by other schools in the Philippines.



**LEONARDO Q. LIONGSON, Ph.D.**  
**Water Resources Administration/Hydrology**  
**The University of Arizona**  
**Tucson, Arizona, USA, 1976**

In recognition of his outstanding contributions and accomplishments in the field of hydrology, hydraulics and water resources engineering as team leader, researcher and teacher using physical and mathematics modeling techniques (including sediment and lahar flows), flow measurement and water balance studies for water-supply systems, environmental and water-quality modeling and assessment of surface water and groundwater systems. Further, he has mentored students in their researches on improved flood frequency estimation techniques by L-moments and analytical models of horizontal well systems, and served as an active member and office of the National Water Resources Board, the Philippine Water Partnership, the national committees for the UNESCO International Hydrological Programme (IHP) and the other scientific organizations.



**ALLAN BENEDICT I. BERNARDO, Ph.D.**  
**Cognitive Psychology**  
**Yale University**  
**USA, 1992**

For his contributions in systematically applying the cognitive psychological approach to studying different aspects of the Philippine educational experience. He has applied cognitive psychological theoretical frameworks, constructs methods and analysis to understanding specific psychological processes related to mathematical learning and problem solving, the role of language in learning, literary development, student academic achievement, teacher development among others. In his well defined long-term research programs, he has combined these tools of cognitive science with critical socio-cultural analysis, resulting in a body of work published in international and national journals and books that features highly theoretical cognitive models and also contextualized and practical analyses of various educational phenomena.

### ***Corresponding Members***

Corresponding membership is conferred on non-resident Filipino scientists who have made exemplary contributions to the advancement of science and technology. Aside from possessing the same qualifications as the Academicians, corresponding members must have continuing connections and contributions to Philippine science. They should regularly come to the Philippines to practice their fields of expertise. Filipino citizenship and residency are waived as long as the first three qualifications are met.

For 2007, the honor was bestowed on Dr. Liwayway M. Engle.

**LIWAYWAY M. ENGLE, Ph.D.**  
**Genetics**  
**University of Illinois, 1973**

For her most outstanding contributions and leadership in the field of conservation and utilization of plant genetic resources, especially vegetables. Under her stewardship, the vegetable gene bank of the Asian Vegetable Research and Development Center (AVRDC) has become the world's most extensive collection of vegetable germplasm, especially the tropical vegetables. Her more than 10,000 accessions of vegetables indigenous to the South and Southeast Asian region that have been collected and conserved in their country of origin and at AVRDC, have significant contribution to the conservation of biodiversity and the availability of genetic material for immediate utilization as well as for researches to further enhance plant biodiversity and utility.

She has pursued vigorously the next step in management of plant genetic resources: the reintroduction of these indigenous vegetables into cultivation, thus adding them into the food basket of many Asian countries. Her module of indigenous vegetable gene banking and utilization has been adapted by other countries in Africa through the leadership of Germany and in Central Asia through the leadership of South Korea.

Her separation from the University of the Philippines Los Baños did not stop her from continuously training UPLB students by serving as adviser or co-adviser of students majoring in genetics, crop evolution and plant genetic resources who do their researches at her laboratory at AVRDC. To date more than 130 students have benefited from this program.



### The Outstanding Young Scientist (OYS) Awards

Yearly, NAST gives recognition to young scientists with outstanding contributions in the field of agricultural sciences, biological sciences, chemical, mathematical and physical sciences, engineering sciences and technology, health sciences and social sciences.

The award is open to young Filipino scientists who are not more than 40 years within the year of the award and have made significant contributions in their respective fields.

For 2007, the awardees were:

**WILLIE P. ABASOLO, Ph.D.**  
**Agriculture**  
**Forest Products and Paper Science Department**  
**College of Forestry and Natural Resources**  
**University of the Philippines Los Baños**

In recognition of his pioneering researches on rattan (*Calamus* spp) and several bamboo species as well as his significant work on the micro-mechanics of the plant cell wall. Evaluating the thermomechanical properties of the rattan cane gave the exact softening temperature of the material. This offered the much-needed information on the efficient conversion of the rattan canes. Determining the cell wall component, e.g. cellulose, hemicellulose, lignin; that provides stiffness and flexibility to the structure, gives an insight on how the plant cell wall works. The usefulness of this information is far reaching. It could have significant application to bioengineering of the material including genetic modification of the plant.





**CHRISTIAN JOSEPH R. CUMAGUN, Dr.Sc.**  
**Agriculture**  
**Crop Protection Cluster, College of Agriculture**  
**University of the Philippines Los Baños**

In recognition of his outstanding research contributions in the field of plant pathology specifically in fungal population genetics and molecular plant pathology. He is credited for locating the genes that control pathogenicity and aggressiveness on the genetic map of *Gibberella zeae* (*Fusarium graminearum*), a fungal pathogen that threatens wheat production around the world. The simple inheritance of pathogenicity and aggressiveness in *G. zeae* and the genetic variation derived from the crosses he established could lead to a gradual increase of aggressiveness, enhancing efforts of plant breeders to use several genetic distinct sources of resistance to avoid possible disease outbreaks in the future. His researches addressed the genetic basis of ecologically or agriculturally important traits of *Fusarium* species affecting important food crops such as toxin production, aggressiveness, vegetative compatibility groups, mating type and female fertility in the hope that it will lead to improved control strategies.



**ARNOLD V. HALLARE, Dr rer nat**  
**Ecotoxicology**  
**Marine Science Institute**  
**University of the Philippines Diliman**

In recognition of his outstanding works on the use of multilevel biological markers to understand how chemical stressors, singly or in "cocktails", such as those associated with waters and sediments, affect the development of aquatic organisms, notably fish. His studies promote the extensive use of appropriate biomarkers, especially in developing countries, in addition to, or to complement the conventional chemical residue analyses, for a more efficient environmental toxicity and risk assessment of freshwater systems. Dr. Hallare's expertise includes developmental and morphological biomarkers, histopathology, heat shock protein responses (hsp 70), and molecular DNA damage resulting from exposure to toxicants. In addition, Dr. Hallare and his German colleagues have introduced and validated a novel assay for genotoxicity assessment of sediments using cell suspensions from whole embryo instead of cell culture. One of his major works also involved the comparison of the three most-commonly used solvents in bioassays for their relative potential to affect the outcome of toxicity studies. His current researches have extended the utility of the said biomarkers for the water quality assessment of groundwater deep wells and of leachate coming from nearby open dumpsites in the Philippines. Results of his works have been presented in various international and national scientific conventions and have been published in internationally-refereed journals on environmental toxicology and aquatic ecosystem health.



**EPHRIME B. METILLO, Ph.D.**  
**Zoology**  
**Department of Biological Sciences**  
**MSU-Iligan Institute of Technology**

In recognition of his contributions to the largely unexplored aspect of the feeding biology and ecology of the micronekton, an important group of aquatic organisms that form a pivotal link between zooplankton production and fisheries. His diverse but integrated studies generated breakthrough knowledge on the ultrastructure of mouthparts and stomach, predatory feeding mechanisms, optimal gustatory chemoreception, digestive enzymes eco-physiology, and in situ feeding rate and diet selectivity in micronektonic shrimps. He also pioneered the culturing of a calanoid copepod species that was fed to the micronektonic larval stages of a commercially important fish species. Dr. Metillo's contributions offer valuable insights towards a deeper but practical understanding of the feeding biology and ecology of the micronekton with direct impact on aquaculture, fisheries, and science-based integrated resource conservation and management.



**DREXEL H. CAMACHO, Ph.D.**  
**Chemistry**  
**Flash Process and Equipment Engineering Division**  
**Intel Technology Philippines**

In recognition of his significant contributions in the utilization of organometallics in catalysis which afforded novel methods that are high yielding, environmentally friendly and atom economical in synthesizing biologically important compounds, difficult to prepare macromolecules and unique conjugated systems. The innovative macrocyclic organometallic compounds he designed have found application as catalysts that can tolerate industrial conditions in preparing polymers with novel properties.

His contribution in the semiconductor industry paved the way to optimized process conditions, improved product yields, and better quality through understanding of polymer chemistry allowing the development of next generation materials and processes that are important to semiconductor manufacturing in the Philippines.

His advocacy on the promotion of quality science education in the country through his continuous engagement in the training and improvement of science teachers as well as the upgrading of public school science teachers in different regions of the country has paved the way for an improved number of qualified chemistry mentors.

**LAURA T. DAVID, Ph.D.**  
**Physical Oceanography**  
**Marine Science Institute, College of Science**  
**University of the Philippines Diliman**

In recognition of her multi-disciplinary study in shallow water and coastal oceanography. Her research involves looking into ocean productivity and diversity as it relates to physico-chemical characteristics and looking at how human activities on land and sea affect the coastal areas and our vulnerability to global climate change. Her research, as well as, involvement as invited lecturer in international workshops on coastal biogeochemical budgets and ocean remote sensing has earned her nomination and appointment to two international scientific committees and a co-chairmanship in the Remote Sensing Working Group of the World Bank/Global Environmental Facility sponsored international research on Coral Reefs. Since 1998, she has been continuously developing and teaching a graduate course on "Coastal Ocean Remote Sensing and Image Analysis" at UP MSI to spark local interest in using remote sensing in marine science research.



**PAULITO P. PALMES, D. Eng'g.**  
**Information and Computer Sciences**  
**Department of Information Systems and Computer Science**  
**Ateneo de Manila University**

In recognition of his outstanding research works in the field of information and computer sciences specifically his introduction of the concept of Structure Evolution and Parameter Adaptation (SEPA) that addressed the design problem of the artificial neural network (ANN). He pioneered in opening new insights and understanding on the dynamic behavior of ANN stochastic learning as shown in his paper using SEPA's "invasive evolution" that appropriate ANN architecture and optimal parameters can be obtained by relying only on the stochastic processes of adaptation and mutation.

He and his colleagues utilized statistical pattern recognition techniques to automatically identify the most relevant terms/concepts with a high degree of accuracy that opened the possibility of having scientific databases with a dynamic navigation tree that keeps on changing in the context of new information being received or shared.



**JOSEPH AURESENIA, Ph.D.**  
**Chemical Engineering**  
**Chemical Engineering Department, College of Engineering**  
**De La Salle University Manila**

In recognition of his outstanding contributions to the mathematical modeling of biofilms and their application to bioreactors. He has studied intensively the dynamic behavior of biofilms as applied in bioreactors to treat domestic and hazardous industrial wastes. His studies have contributed to a better understanding of biofilm structure, microbial ecology as well as the biochemical reactions occurring inside the biofilms. His mathematical models of the biochemical reaction kinetics in biofilms have led to better understanding of the dynamic behavior of the system. The models are used as the basis for the design of wastewater treatment plants treating hazardous wastes such as polychlorinated biphenyls, chlordane, and other pesticides and chemicals banned under Stockholm, Convention.





**EDUARDO C. AYUSTE, JR., M.D.**  
**Clinical Surgery**  
**Department of Surgery, College of Medicine**  
**University of the Philippines Manila**

In recognition of his pioneering works and accomplishments as a scientist and an academic surgeon. His works on fluid resuscitation helped elucidate some cellular and immune processes in play during hemorrhagic shock. He expounded on a surgical technique used to control presacral bleeding. He played an important role in the development of a novel technique for emergency preservation and resuscitation — suspended animation (hypothermic hyperkalemic asanguinous arrest). He was instrumental in the completion of a couple of Clinical Practice Guidelines for the Philippine College of Surgeons. Most of his award-winning researches have been published internationally.



**CZARINA A. SALOMA-AKPEDONU, Ph.D.**  
**Sociology**  
**Department of Sociology and Anthropology**  
**Ateneo de Manila University**

In recognition of her significant studies and researches in the area of social science and technology which have an impact on the way we view culture and our identity as a people. Her book, *Possible Worlds in Impossible Spaces: Globality, Knowledge, Gender and Information Technology in the Philippines*, addresses the gap between scientific and technological cultures and the consumption and users of science and technology by bringing attention to the acquisition, creation, and utilization of scientific and technological knowledge. Her work provides a framework and methodology, for studying the empirical, cultural, and material aspects of science and technology. In 2005, she developed an undergraduate/graduate course on "Sociology of Science and Technology" at the Ateneo de Manila University to spark interest in the study of science and technology.



### TWAS Prize for Young Scientist in the Philippines

The TWAS Prize for Young Scientist in the Philippines is given to an outstanding Filipino scientist jointly by the Academy and the Third World Academy of Sciences (TWAS). Annually, one award is given in the selected discipline for the year — biology, chemistry, mathematics, or physics. In 2007, the award is given to outstanding scientist in the field of chemistry.

Drexel H. Camacho, Ph.D. (Chemistry) from the Flash Process and Equipment Engineering Department of Intel Technology Philippines is the 18<sup>th</sup> recipient of the award.

The award was given to Dr. Camacho "in recognition of his outstanding contributions in the advancement of science particularly in organometallic chemistry, through the design of novel cyclophane-based transition metal catalysts and the development of palladium-catalyzed organic synthetic methods. His works have led to high

yielding, environmentally friendly and atom economical methods in the synthesis of biologically important compounds, unique conjugated systems and novel polymeric materials. His research on polymer and semiconductor processing has allowed the improvement of next generation materials and processes that are economical to the manufacturing of integrated circuit packages in the Philippines. His advocacy for quality science education in the Philippines through his active commitment in the training and upgrading of public school science teachers in different regions of the country has increased the number of qualified secondary chemistry teachers.

Dr. Camacho, who is also a 2007 OYS awardee, received a cash prize of US\$2,000 from TWAS and a plaque from NAST.

## NAST- Hugh Greenwood Environmental Science Award

The Academy together with Dr. Hugh Greenwood established the NAST-Hugh Greenwood Environmental Science Award to recognize outstanding scientific and technological research works that contribute to environmental protection and conservation.

In 2007, the award was given to two well-known scientists. They were Dr. Paciencia P. Milan and Dr. Antonette J. Meñez. Both Drs. Milan and Meñez received a trophy from NAST and a cash prize of US\$500.00 from Dr. Hugh Greenwood through the NAST-Philippine Science Heritage Foundation, Inc. during the Awarding Ceremonies on 18 April 2007 at The Heritage Hotel, Roxas Boulevard corner EDSA, Pasay City.

Dr. Milan was given the award :

*In recognition of her significant contributions to the conservation of biodiversity and rehabilitation of the environment particularly, her work and involvement in the development and implementation of the novel Reforestation Farming approach, the Small Islands Environmental Rehabilitation and Livelihood Program, and the Marine Turtles on Philippine Island Project. Through her leadership, farmers and cooperatives were organized to sustain people involvement in the protection and rehabilitation of destroyed forests, as well as in the enhancement of the capabilities of the beneficiaries themselves to manage their own resources by giving training, seminars, field cross visits and continuing environmental education.*

Dr. Paciencia P. Milan earned her PhD from Bowling Green State University, USA in 1985 and her BS in 1967 and MS in 1977 from the University of San Carlos. Dr Milan is the President of the Leyte State University in Baybay, Leyte. She is also the president of the following organizations: League of Lady SUC Presidents, Environmental Education Network of the Philippines Board, Association of Filipino Counterparts of Foreign Assisted Projects.

She has more than 10 years of extensive administrative experience and leadership role in research and extension. Her scientific and technical contributions include the development of technology and relevant outputs of research activities, which could bring significant impact to Philippine economy, as well as conservation of biodiversity and rehabilitation of the environment.

Some of the achievement awards she received include: PANTAS Award for Outstanding Research Administrator-Region VIII (2006), Environmental Science Award (2005), Regional Research Administrator Award (2001), Most Outstanding Faculty Award-VISCA, Baybay, Leyte (2001), DENR Meritorious Award-Region VIII (1993), and Outstanding Educator (1990).





Dr. Meñez, on the other hand, received the award:

*In recognition of her significant contributions towards the implementation of environmental protection and conservation, specifically on coastal ecosystem management and governance. Through her work in the biology, ecology and culture of commercially important invertebrates, she has demonstrated that the convergence of good scientific understanding with appropriate extension work of committed workers translates to community involvement and successful recovery of depleted stocks. Her innovative interdisciplinary researches in population genetics have shown the impact of ecological processes in the contentious area of marine biodiversity.*

Dr. Marie Antonette J. Meñez, a marine biologist, earned her PhD (Biological Sciences) from the University of Rhode Island, USA in 1991 and her B.S. (Marine Science) in 1981 and M.S. (Marine Biology) in 1986 from UP Diliman. Dr. Meñez has many publications in local and international journals, as well as guide manuals for good practices in coastal and environmental governance.

Dr. Meñez is an exemplary scientist who serves as an important role model in the practice of both science and coastal management. Her accomplishments in the biology, ecology, and culture of commercially important invertebrates show the breath of her high quality science research, extension and community development efforts.

Her many achievement awards that attest to her excellent performance include Outstanding Women in the Nation's Service (TOWNS), Outstanding Young Scientist (OYS), Gawad Chanselor Award for Extension Services, and UP Scientific Productivity Award.

The members of the Board of Judges were Academician Filemon A. Uriarte Jr. (Chair), National Scientist Clare R. Baltazar, National Scientist Lourdes J. Cruz, Academician Mercedes B. Concepcion, Academician Quintin L. Kintanar, and Academician Teodulo M. Topacio Jr.

## NAST Talent Search for Young Scientists

To encourage young people to pursue careers in science and technology, NAST conceptualized the NAST Talent Search for Young Scientists. The award is open to talented Filipino scientist below 35 years old and affiliated with scientific associations, research institutions or college/ university. Finalists are required to present an oral presentation of their paper during the final judging.

### **WINNER:**

**REGINA C. SO, Ph.D.**  
**Organic Chemistry**

In recognition of her outstanding scientific and technological contributions entitled: "Research on the approaches to the Synthesis of Glycosphingolipids".



### **SPECIAL CITATION:**

**DINDO AGUSTIN A. TABANAO, Ph.D.**  
**Applied Plant Sciences**

In recognition of his significant scientific and technological contributions entitled: "Multilocus Epistasis, Linkage, and Genetic Variance in Breeding Populations with Few Parents".

**CONRADO dR. RUIZ JR., M.S.**  
**School of Computing**

In recognition of his outstanding scientific and technological contributions entitled:  
"Animation Toolkit Based on Database Approach for Reusing Motions and Models".



## Outstanding Scientific Paper Awards

The award aims to recognize outstanding scientific papers published in Philippine journals and to promote improvement of the quality of Philippine science journals.

In 2007, the winners were:

- Atabay, Eufrocina P., Edwin C. Atabay, Danilda Duran, Rodante de Veta and Libertado C. Cruz, **Enhanced Developmental Competence of Buffalo Oocytes in the Presence of Hormones and Epidermal Growth Factor during in Vitro Maturation**. ISSN 0155-2173 *The Philippine Journal of Veterinary and Animal Sciences* 32(2):155-166 (2006).
- Sison, Maria Elnor Grace Q., Glenn B. Gregorio, and Merlyn S. Mendiolo, **The Effect of Different Milling Times on Grain Iron Content and Grain Physical Parameters Associated with Milling of Eight Genotypes of Rice (*Oryza sativa* L.)** ISSN 0031-7683 *Philippine Journal of Science*, 135(1) 9-17 (2006).
- Licuanan, Wilfredo Y., Porfirio M. Alifio, Willy L. Campos, GB Castillo and Marie Antonette J. Meñez, **A Decision Support Model for Determining Sizes of Marine Protected Areas: Biophysical Considerations**. ISSN 0031-7454 *The Philippine Agricultural Scientist* 89(1):507-520 (2006).
- Banaay, Charina Gracia B., Francisco B. Elegado, and Ida F. Dalmacio, **Identification and Characterization of Bacteriogenic *Lactobacillus plantarum* BS25 Isolated from *Balao-balao*, a Locally Fermented Rice-Shrimp Mixture from the Philippines**. ISSN 0031-7454 *The Philippine Agricultural Scientist* 87(4) 427-438 (2004).
- Rivero, Henry I., and Olga M. Nuñez, **Macro- and Microscopical Analyses of the Oocytes of *Stegastes nigricans* Lacapede (Pomacentridae: Labroidae)**. ISSN 1656-5134 *Journal of Aquatic Sciences* 2(2) 57-65 (2005).
- De las Peñas, Ma, Louise Antonette N. and Antonio M. Basillo, S.J., **On Vertex-Colorings of Archimedean Tilings with Applications in Molecular Symmetry**. ISBN 971-550-458-2 *The Loyola Schools Review: School of Science and Engineering* 3:125-137 (2004).
- Noel, Marissa G., and Fabian M. Dayrit, **Triterpenes in the Callus Culture of *Vitex nigundo* L.** ISSN 0031-7683 *Philippine Journal of Science* 26 (1-3): 127-136 (2003).
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### The Outstanding Book Awards

These awards are given annually to outstanding books published in the Philippines by Filipino authors within five years preceding the award. The awardees for 2007 were:



## The Magsaysay Young Engineers/Technologists Competition

The Academy, together with the Office of Senator Ramon B. Magsaysay Jr. established the Magsaysay Young Engineers/Technologists Competition. It is open to Bachelor of Science students whose research outputs would be a significant contribution to research and development in science and technology specifically in engineering and technology. The awarding ceremonies were held on 23 August 2007 at Sofitel Philippine Plaza, CCP Complex, Pasay City.

### **FIRST PRIZE WINNER:**

**CHRISTIAN M. ALIS**  
**BS Applied Physics**

In recognition of his outstanding scientific and technological research entitled: **"Mobile Technology for Telehealth and Spatio-Temporal Tracking"**

### **SECOND PRIZE WINNER:**

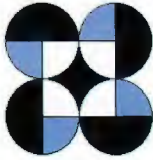
**ALLAN N. ESTRELLA**  
**BS Electronics and Communications Engineering**

In recognition of his outstanding scientific and technological research entitled: **"Axel Activity Monitor"**



The First prize winner, Mr. Alis, received a cash prize of Fifty Thousand Pesos (PhP50,000.00), plaque of recognition and a research grant of Five Hundred Thousand Pesos (PhP500,000.00) for the project entitled "Development of a Mobile System for remote Control of Biomedical Devices". On the other hand, the Second prize winner, Mr. Estrella, received a cash prize of Thirty Thousand Pesos (PhP30,000.00) and a plaque of recognition.





## NSTW Awards

The National Science and Technology Week (NSTW) is observed annually to highlight the latest initiatives and advances in science and technology (S&T) and to promote increased awareness of the importance of S&T in people's lives. The week-long celebration culminates in the conferment of awards and recognition to individuals and institutions that have made significant accomplishments and contributions to the generation of knowledge and technologies, utilization of research results, and the promotion of S&T in the country. The Academy handles the said awards at the request of the Department of Science and Technology.

The winners received their cash prizes, medals and plaques of recognition during the awarding ceremonies held last 16 July 2007 at Dusit Hotel Nikko, Makati City. The awardees for 2007 were:

- **Outstanding S&T Administrator Award (Dioscoro Umali Medal)**

The award is given in recognition of S&T or R&D administrators who have made significant contributions to science and technology through effective management and implementation of plans and programs. The S&T or R&D administrator may come from the academe, private sector, or government.

The Board of Judges chaired by Academician William G. Padolina decided to defer selection for next year since the number of nominees was not adequate and further recommended the conduct of vigorous campaign to get more nominees. Nominations that were received for 2007 selection will be automatically considered for 2008.

- **Outstanding Research and Development (R&D) Awards: Eduardo A. Quisumbing for Basic Research and Julian A. Banzon for Applied Research**

The award is given to an individual/group that has made outstanding contributions in research. Two types of awards were given: the Basic Research (Eduardo Quisumbing Medal) and Applied Research (Julian Banzon Medal). Each winner for the two types of awards received a medal, plaque of recognition and cash prize of P150,000.00.



❖ **Basic Research (Eduardo Quisumbing Medal)** — entries may come from any of the following fields: (1) mathematical (computer sciences), (2) physical (Physics, Chemistry, etc.), and (3) life sciences (biology, botany, biochemistry, molecular biology, etc.).

**Winner: DR. EDGARDO E. TULIN**  
 Professor, Philippine Root Crops Research and Training Center (PhilRootCrops)  
 Visayas State University, Baybay, Leyte

*In recognition of his research work "Cytokine mimetic properties of some Philippine food and medicinal plants" which is the first report of cytokine mimicry using Philippine plant material sources. The study describes the evaluation, isolation and biochemical and functional characterization of plant protein mimetics. Further, the study on plant protein mimetics offers an opportunity to identify novel molecules with significant potential for clinical use.*

❖ **Applied Research (Julian Banzon Medal)** — entries may come from any of the following fields: (1) agriculture (including aquaculture and forestry), (b) industry and engineering (energy, environment, earth science, textile, pharmaceuticals, process, mining and minerals, materials science, transportation, wood and wood products, construction, electronics, information technology, engineering technologies), and (3) health and social sciences (economics, health, nutrition, science education, other social sciences).

**Winner: DR. MENANDRO N. ACDA**  
 Associate Professor and Chairman  
 Department of Forest Products and Paper Science  
 College of Forestry and Natural Resources  
 UP Los Baños, Laguna

*In recognition of his research work "Use of lahar from Mt. Pinatubo as barrier to prevent tunneling and invasion of subterranean termites into homes and timber structures in the Philippines". This study developed a technique that could provide an alternative method of termite control without the use of persistent organic pesticides or relatively expensive termite bait products. This technology is environment friendly and could greatly reduce the load of toxic chemicals in the urban environment. It also eases the demand for frequent replacement of termite-infested timber structures, thereby contributing to the conservation and sustainable development of limited forest resources.*



- Outstanding Technology Commercialization Award (Gregorio Zara Medal)**

The award is given in recognition of the efforts of technology generators and developers whose technologies have been commercialized. Entries may come from any of the following fields: (1) agriculture (including aquaculture and forestry); (2) industry and engineering (energy, environment, earth science, textile, process, mining and minerals, materials science, transportation, wood and wood products, construction); and (3) health and nutrition and related pharmaceuticals and social sciences.

There were two winners for the said award and they shared the cash prize of P150,000 (P75,000 each). The winners also received a medal and a plaque of recognition. For 2007, the winners were:

**ENGR. ROMEO M. CABACANG**

Chief Science Research Specialist  
Microbiology and Genetics Division  
Industrial Technology and Development Institute  
(ITDI), DOST

*In recognition of his successful commercialization of bioreactor technology as an alternative solution to the biodegradable municipal solid waste problem. The technology, which is both economically feasible and environmentally acceptable in supplying the needs of small municipalities, is successful in projecting itself as the Philippine benchmark in composting technology from the point of view of environmental and social acceptability and cost of operation. The technology is proven environment friendly with no leachate discharge that may contaminate groundwater or significant odor emissions that may annoy neighboring areas in the composting site. It is considered as a dominant in-vessel composting technology being adopted by LGUs and private companies nationwide.*

**DR. MERCEDES U. GARCIA**

Professor Emeritus, College of Forestry and  
Natural Resources, UP Los Baños, Laguna and  
Consultant and Project Leader  
National Institute of Molecular Biology and  
Biotechnology  
UP Los Baños, Laguna

*In recognition of her successful commercialization of BIO-N, an efficient biofertilizer for rice, corn and high-value crops, which minimizes the use of the imported nitrogenous form of, combined inorganic fertilizers. This technology substantially lowers production cost for farmers. It is now being extensively used by farmers nationwide.*

## Benefits of Academicians and National Scientists

### Research Fellowships

Aside from recognizing outstanding accomplishments in science and technology, the Academy also provides incentives, benefits and privileges to Academicians and National Scientists. One of these is the research fellowship grant.

ACADEMY MEMBER	TOPIC	DURATION
ACD. FILEMON A. URIARTE JR.	Knowledge Economy	01 March 2006 to 28 February 2007
	Biofuels from Vegetable Oil	01 September 2007 to 31 August 2008
ACD. ASUNCION K. RAYMUNDO	Bioremediation of Mining Wastes	01 April 2006 to 31 March 2007
NS PAULO C. CAMPOS	Memoirs of NS Campos	01 April 2006 to 31 March 2007
ACD. ELIEZER A. ALBACEA	NAST Web Portal Development	September 2006 to 30 August 2007
ACD. EVELYN MAE T. MENDOZA	Toward Building a Culture of Science in the Philippines	15 February 2007 to 14 February 2008
ACD. WILLIAM T. TORRES	Enhancing NAST's Capability for Knowledge Management and Virtual Collaboration	01 April 2007 to 31 March 2008
ACD. RUBEN L. VILLAREAL	Building a Science Culture in Laguna with Los Baños as Pilot through Improved Math and Science Education	01 September 2007 to 31 August 2008
ACD. THELMA E. TUPASI	Reduction of Perinatal and Maternal Mortality	01 October 2007 to 30 September 2008
NS DOLORES A. RAMIREZ	Vascular Flora of Mount Makiling and Vicinity (Luzon: Philippines), Part III	01 December 2007 to 30 November 2008

### Publication Assistance

Two Academy members received publication assistance in 2007.

ACADEMY MEMBER	TITLE OF PUBLICATION	AMOUNT
ACD. SALCEDO L. EDUARDO	Synopsis of the Parasites of Birds in the Philippines	PhP 100,000
ACD. ASUNCION K. RAYMUNDO	Proceedings of the Roundtable Discussion on "Biology Education: Gaps, Concerns and Issues	PhP 50,000

## Awards received by NAST Members

### **Baldomero M. Olivera** *Harvard Scientist of 2007*

Academician Baldomero M. Olivera, a well-known biochemist and molecular biologist received the award at an honorary luncheon on Friday, 23 March 2007 at Harvard Pforzheimer House, which marked the opening of the annual Albert Einstein Science Conference. Academician Olivera was recognized for his significant contributions in the field of biology. His researches led to the discoveries of numerous Conus peptides, which are now in various phases of clinical trials as highly specific drugs for pain, epilepsy, and other disorders of the nervous system. The Harvard Scientist Award is given annually to an internationally renowned scientist for his/her contributions and achievements in the biological and physical sciences, and particularly on efforts to advance minorities and women in sciences.



### **Eduardo A. Padlan** *Concepcion Dadufalza Award for Distinguished Achievement*

Academician Padlan was given the Concepcion Dadufalza Award for Distinguished Achievement for his notable work in the field of structural biology. The award is given to individuals who have been affiliated with the University of the Philippines and have exhibited outstanding merit in scholarship, university citizenship and professional involvement; in short, individuals who have made a difference in society.

## IN MEMORIAM

The Academy was saddened by the demise of three esteemed members of NAST.

**National Scientist Jose Ramirez Velasco** died after complications from pneumonia at Our Lady of the Pillar Medical Center in Imus, Cavite at around 11:00 p.m. on January 24, 2007. NS Velasco's most important contributions to Philippine scientific community included, among others, his various researches on the nutrition and photoperiodism of the rice plant as early as the 1950s, mineral nutrition of areas planted to coconut — its relation to the growth and performance of the coconut plant and to the cadang-cadang phenomenon, and the development and utilization of coconut products. A necrological service was held at the lobby of the Department of Science and Technology, Bicutan, Taguig City followed by a state funeral led by the Armed Forces of the Philippines, Philippine Air Force and Philippine Navy. The family of NS Velasco and representatives from the academe, media and the science community attended the service. His remains were cremated on January 30, 2007.

**National Scientist Paulo C. Campos**, noted for his work on nuclear medicine, passed away on 02 June 2007. As a health scientist, Dr. Campos authored/co-authored 75 scientific publications some of which were award winning. His researches namely: (1) Observation on Some Parameter of Insulin Action, (2) Cr-51 Tagged Red Cell Studies, and (3) The Genetic Factor in Endemic Goiter won First Prizes in Research Award. For his achievements in research, the Philippine Association for the Advancement of Science named him Outstanding Scientist (Gregorio Y. Zara Award) in 1969. Dr. Campos is credited for establishing the first and best-known Radioisotope Laboratory in the country, the first Research Laboratory in the Department of Medicine, University of the Philippines and the Thyroid Clinic of the UP-PGH Medical Center.

**Dr. Conrado S. Dayrit**, Academician, emeritus professor of pharmacology, practicing cardiologist-internist, researcher with over 250 scientific papers published in international and national journals, who became an inspiration to many Filipinos passed away on 06 October 2007. Acd. Dayrit became the third President of the National Academy of Science and Technology (NAST) from 1992-1999 and the President of the NAST Foundation since its inception until his death. Considered one of Dr. Dayrit's greatest contributions is his investigation into the medicinal and health value of the coconut oil. He was a strong defender of this product, which challenged the mindset of the international medical community that the coconut oil causes heart disease. His advocacy on the health benefits of coconut oil started as early as the 1960s and popular following with his lectures and publications. He directed the first formal study of the treatment of HIV-AIDS comparing coconut oil; promising results have become the basis for continued trials planned to alleviate the suffering of millions in African countries.



# ADVISORY FUNCTION



## ADVISORY FUNCTION



Through its advisory activities, NAST has been able to bring science and technology closer to the lives of the Filipino. Its series of information fora and roundtable discussions have encouraged public participation in open discussions of important and pressing issues in science and technology on a wide range of topics such as biosafety, biofuels, water issues, rice, bioremediation, engineering education and services, science and mathematics education, coconut oil, and nuclear power. This has resulted in the formulation of specific policy interventions such that people would benefit more from S&T. Academicians, National Scientists and other local and foreign experts have put their knowledge and expertise together to give advise to legislators, including other policy making bodies of the government and non-government entities, on policies related to science and technology.

The NAST Annual Scientific Meeting is a major event where scientists and researchers from the government, academe, industries, non-government organizations, among others, convene to discuss S&T issues of national relevance and to enrich their knowledge of the new research findings and scientific advances in the Philippines and elsewhere, and to witness the awarding of recipients of various NAST awards.

### 29<sup>th</sup> Annual Scientific Meeting (ASM)

The 29<sup>th</sup> ASM, steered by the Chemical, Mathematical and Physical Sciences Division (CMPSD) with Acd. Evelyn Mae Tecson-Mendoza as chair, carried the theme **"A Progressive Philippines Anchored on Science: Building a Culture of Science in the Philippines."**

The ASM focused on possible strategies that can accelerate the building of a culture of science in the country. These strategies include: a) a strategic change in science education in elementary schools which involves discovery- and inquiry-based method of teaching; b) increasing support for young talent and genius; c) strengthening institutions of research and scholarship.

There were six plenary sessions, each topic dealing with issues and concerns plaguing science and mathematics education in the country. The papers presented on the topics "Strengthening Basic Education," "Government Support to Science Education", "Problems and Possibilities at the Heart of Science Education," "University-Industry-Government Linkages" and "Mentoring, Ethics and Media," were subjected to analysis, debate, and discussion.



The six divisions of NAST each conducted concurrent technical sessions in the afternoon of 11 July 2007. Papers presented dealt with enhancing the competitiveness of the graduates of their respective fields and presentations on strategies and approaches in improving science and mathematics educations. Each division came up with roadmaps to further strengthen the curricular programs and related matters in their fields of concern and make them relevant to the country's socio-economic needs. The roadmaps were presented in the sixth plenary session on 12 July 2007.

Acad. Bienvenido F. Nebres, SJ, Ateneo President and member of the Academy keynoted the affair while luminaries like Secretary Jesli A. Lapus of DepEd, Secretary Estrella F. Alabastro of DOST, Dr. Lee Yew Jin of the National Institute of Education in Singapore, UP President Emerlinda Roman, Ms. Cecilia "Cheche" Lazaro of the PROBE Team, shared their expertise as plenary speakers. Participants included officers of the Korean Research Foundation, members of the diplomatic community, researchers, scientists, educators, and students. The two-day affair included scientific posters session that also featured the electronic poster version, investiture, and awarding ceremonies.

The 29<sup>th</sup> ASM was organized with the assistance from the Department of Science and Technology (DOST), Monsanto Philippines, Inc., Office of Senator Ramon B. Magsaysay Jr. and Science Education Institute (SEI) as patrons; Centro Escolar University, and Shoemart, Inc. as sponsors; Ateneo De Manila University, Department of Agriculture through its Biotech Program, ISAAA, PCASTRD, PCHRD, Resins, Inc., SEARCA, United Laboratories, Inc., UPLB Foundation, Inc., Institute of Plant Breeding, UPLB, Aspen Multisystem Corporation, Biotechnology Coalition of the Philippines, Crop Life Philippines, De La Salle University, Dr. Lino Ed. Lim, Emilio Aguinaldo College, Mapua Institute of Technology, Manila Central University, National Research Council of the Philippines, Omnibus Bio-Medical Systems, PCAMRD, Pascual Laboratories, Inc., Philippine Women's University, PhilRice, Program for Biosafety Systems, RFG Photography and Souvenir, Syngenta Philippines, Inc., University of the East, and University of Santo Tomas as donors, exhibitors and advertisers.

A total of 981 and 1126 guests and participants attended the Annual Scientific Meeting on the first and second day, respectively.

The 29<sup>th</sup> ASM Steering Committee was composed of Acad. Evelyn Mae Tecson-Mendoza, (Chair), NS Lourdes J. Cruz, NS Bienvenido O. Juliano, Acad. Jose O. Juliano, NS Clara Y. Lim-Sylianco, Acad. Apolinario D. Nazarea, Acad. Bienvenido F. Nebres, SJ, Acad. William G. Padolina, and Acad. Caesar A. Saloma.

## Scientific Posters.

There were 178 accepted entries for the scientific posters session: ASD - 47; BSD – 62; CMPSD – 26; ESTD- 10; HSD -22; and SSD – 11. (based on 2007 Transactions, Abstracts Vol 29, issue no. 1) The winners of the 2007 NAST Best Poster Competition are in Table 1.

Table 1. 2007 NAST Best Poster Awards

Division	Name(s)	Office/Affiliation	Title of Paper
Agricultural Sciences	Bonifacio F. Cayabyab, Edwin P. Alcantra, Augusto C. Sumalde, Wilma R. Cuaterno, Blair D. Siegfried, and Ma. Charisma Malenab	Crop Protection Cluster, College of Agriculture, University of the Philippines Los Baños College, Laguna 4031	Post-commercialization monitoring of Asia corn borer <i>Ostrinia furnacalis</i> (Guenee) Resistance to Bt corn in the Philippines and the impact of pollen dispersal on non-target Lepidoptera
Biological Sciences	Elaine V. Lim, Vivian Panes, and Gabriel Romero	Plant Breeding and Biotechnology Division, Philippine Rice Research Institute, Science City of Muñoz, Nueva Ecija	Species identification and genetic diversity analysis of yeast isolates from Philippine rice wine starters by DNA fingerprinting
Chemical, Mathematical, and Physical Sciences	Ian Harvey J. Arellano, Eduardo R. Magdaluyo, Denis Aquino, Roland V. Samargo and Leon M. Payawan Jr.	Nanostructures and Surface Chemistry Research Laboratory, Institute of Chemistry, College of Science, University of the Philippines, Diliman, Quezon City 1101	Morphological evolution of diverse zinc oxide nanostructures
Engineering Sciences and Technology	Alona V. De Grano and Jaderick P. Pabico	Institute of Computer Science, College of Arts and Sciences, University of the Philippines Los Baños, College 4031, Laguna	Automating the classification of tomato ( <i>Lycopersicon esculentum</i> ) maturity using image analysis and neural networks
Health Sciences	Ronald R. Matias, Frederick de la Cruz, Elena Tuano, Katherine M. Santiago, Leila M. Florentino, Rodolfo Pagcatipunan, and Alexander O. Tuazon	Biological Sciences Department, Medical Affairs Division, United Laboratories Inc., United Avenue, Mandaluyong City	Decreased invasion of respiratory pathogens in human pharyngeal cells due to subinhibitory concentrations of carboxymethylcysteine
Social Sciences	L.C. Sevidal Castro, Liwayway S. Vitoria, Johanna F. Hanasan and Reymund T. Bago	College of Arts and Social Sciences, Mindanao State University-Iligan Institute of Technology, Iligan City	From <i>pails</i> to <i>pasungko</i> : Negotiating the present, ascertaining the future (indigenous knowledge systems and opportunities for biodiversity management and conservation)

Two resolutions were presented to the plenary and later endorsed to DOST Secretary Alabastro and DepEd Undersecretary Ramon Bacani. These were resolutions on **Requesting Congress to Enact an Animal Health Code** and the **Resolution for NAST to Actively Participate in the Implementation and Activities of Joint Resolution No.1 entitled "Joint Resolution Creating a Congressional Commission to Review and Assess the State of Competitiveness of Science and Technology, and Engineering Research and Development (R&D) Sector in the Country" and to Provide an Initial Agenda for the Proposed Congressional Commission on Science and Technology, and Engineering (COMSTE)**. The said resolutions were endorsed by Secretary Alabastro to concerned offices.

#### **REQUESTING CONGRESS TO ENACT AN ANIMAL HEALTH CODE**

**WHEREAS**, there exist a number of animal diseases that continue to pose threat to man either directly through zoonotic infection or indirectly through economically important diseases; **WHEREAS**, every country has the right to adopt measures to protect its citizenry, the economy and the environment against the detrimental effects of said animal diseases; **WHEREAS**, current regulatory issuances had been mostly in the form of orders by the executive branch of government which do not provide the necessary authority to government inspectors to enforce the needed prevention and control measures; **WHEREAS**, there is a need for a legislative action that will lay the national policy and provide guidance to national government agencies and local government units towards concerted action in the prevention and control of animal diseases. **NOW, THEREFORE**, we the members of the National Academy of Science and Technology (NAST) to recommend to the President, HON. GLORIA MACAPAGAL ARROYO and the Congress of the Philippines, the enactment of an "ANIMAL HEALTH CODE OF THE PHILIPPINES." Done this 12<sup>th</sup> day of July 2007 in Manila

#### **RESOLUTION FOR NAST TO ACTIVELY PARTICIPATE IN THE IMPLEMENTATION AND ACTIVITIES OF JOINT RESOLUTION NO.1 ENTITLED "JOINT RESOLUTION CREATING A CONGRESSIONAL COMMISSION TO REVIEW AND ASSESS THE STATE OF COMPETITIVENESS OF SCIENCE AND TECHNOLOGY, AND ENGINEERING RESEARCH AND DEVELOPMENT (R&D) SECTOR IN THE COUNTRY" AND TO PROVIDE AN INITIAL AGENDA FOR THE PROPOSED CONGRESSIONAL COMMISSION ON SCIENCE AND TECHNOLOGY, AND ENGINEERING (COMSTE)**

Whereas, Joint Resolution No. 1 entitled "Joint Resolution Creating a Congressional Commission to Review and Assess the State of Competitiveness of Science and Technology, and Engineering Research and Development (R&D) Sector in the Country" was passed during the Third Special Session of the Thirteenth Congress and approved by President Arroyo on 25 April 2007; Whereas, Joint Resolution No. 1 authorizes the establishment of a Congressional Commission on Science and Technology, and Engineering (COMSTE); Whereas, COMSTE will conduct a comprehensive national review and assessment of the science and technology, and engineering research and development and how they can be harnessed to improve the country's competitiveness; Whereas, COMSTE shall also review and assess the formal and informal educational system in both public and private sector; Whereas, the NAST can interphase with both public and private agencies and is mandated to provide advice on science policy and R&D priorities towards a technology explicit national development agenda; Whereas, the NAST has the means to provide experts to assist COMSTE as it has 52 academicians, of which 10 are national scientists and 6 corresponding members; 246 Outstanding Young Scientists, 18 Third World Academy of Science awardees, 8 Greenwood Environmental Science Awardees, and 67 awardees for NAST Talent Search for Young Scientists among others all of whom can greatly contribute to the discussions; Be it resolved as it is hereby resolved, that NAST provide the leadership to organize panels of

**As part of the pre-ASM, the Academy conducted five roundtable discussions whose outputs were presented during the 2007 ASM.**

resource persons from the science community to participate actively in the activities of COMSTE, DOST, CHED, Local Government Units and other public and private institutions, by providing information on issues relevant to competitiveness based on science and technology; Be it further resolved, as it is hereby resolved, that the following issues be brought to the attention of COMSTE as the initial agenda for review and assessment: a. Accelerate and encourage public and private sector investments in science, mathematics and engineering education to produce the highly qualified human resources for the national innovation system specifically those who will teach/train, undertake research, translate research results into marketable products/services, assure quality of products/services and to market the products/services to enhance the competitiveness of Philippine products/services in the global market; b. Support and empower inquiry-based community initiatives in basic education, usually through the local school boards, towards improving and ensuring the quality of science and mathematics in the schools within their jurisdiction; c. Develop academe-industry linkage programs through CHED and other institutions that will link degree offerings in science and technology of both public and private universities with the needs and requirements of industry, agriculture and services sectors; d. Support world-class locally relevant research and encourage publication and patenting, if needed, of research results; e. Build National Capacity for dealing with the institutional issues that are discussed in both international and national fora such as climate change and global warming, biodiversity, bioprospecting, biosecurity, biosafety, intellectual property rights, technical barriers to trade; f. Move towards product standard-driven technologies by selecting areas in industry, agriculture and services where the Philippine has competitive advantage.

### ***Status of Science and Math Education in the Philippines***

The RTD was held on 16 February 2007 at Traders Hotel Manila. The activity aimed to *showcase the most recent developments in science and mathematics education in the country*. Among the salient points identified and discussed during the RTD include the following:

- Provision of textbooks for students and self-contained reference material/guide for teachers
- Improvement of existing lesson guides based on feedback from teachers and produce the revised compilations.
- Follow-up on the initial effort to review and accredit mathematics textbooks to ensure that contents are corrected and substantial (Geometry books need urgent and careful attention)
- Formulation of strategies to connect the classroom to all levels of society
- Involvement of the media in developing a culture of science
- Development of strategies (reinforcement systems) to make science career attractive

The activity, which was attended by 69 participants from concerned sectors, was co-organized by NAST and Ateneo De Manila University.

## **Mentoring and Ethics**

The RTD on mentoring and ethics was held on March 21 2007 at the CS Auditorium, College of Science Library and Administration Bldg., Velasquez St., UP Diliman. Topics such as: Mentoring Mentor Explicitly, Role of Lunch in Mentoring, Mentoring—Inspiration or Perspiration?, Mentoring Medics, Passion, Vision and the Discipline of Execution were discussed and elaborated by experts in the field. Results of the RTD became valuable inputs in the two-day Annual Scientific Meeting on July 11-12, 2007 at the Manila Hotel.



## **Biology Education, Gaps, Concerns and Issues**

On 23 April 2007, a roundtable discussion on biology education, gaps, concerns and issues was held at Traders Hotel Manila. The aims of the RTD were to: (a) bring together stakeholders in biology education from different levels and sectors in a roundtable discussion; (b) identify different issues & concerns of stakeholders and bring them to light on a broader context; (c) identify gaps in the science curriculum on the primary, secondary & tertiary level & explore ways of addressing these in terms of national priorities; and, (d) promote interaction and collaboration among stakeholders. An overview of biology education at the primary, secondary and tertiary levels, identifying the gaps, concerns and issues confronting the different stakeholders and situating these within the context of educational and national priorities was prepared. An action plan addressing these issues and concerns was also prepared.

The activity, which was attended by more than 50 participants from concerned sectors, was organized by NAST in cooperation with University of the Philippines Los Baños -Institute of Biological Sciences (UPLB-IBS), the Department of Education (DepEd), and Commission on Higher Education (CHED).



### **Strategies in Science Careers**

In preparation for the 29<sup>th</sup> Annual Scientific Meeting, the RTD on strategies in science education was held on June 8, 2007 at Traders Hotel Manila. Discussed during the activity were the inspirational experiences of successful scientists which led in identifying career paths and opportunities in science for students and young graduates.

### **Approaches and Strategies on Science Education Toward Building a Culture of Science**

Part of the preparation for the NAST annual meeting was holding the roundtable discussion on approaches and strategies on science education toward building a culture of science. The RTD was held on 15 June 2007 at Sofitel Philippine Plaza, Pasay City. The results of this RTD were presented during the 29<sup>th</sup> Annual Scientific Meeting of NAST on 11-12 July 2006 at the Manila Hotel.

## **PA 2020**

As part of the continuing concerns of NAST and advocacy of PA 2020, there were four activities conducted in 2007.

### **13<sup>th</sup> Dioscoro L. Umali Memorial Lecture Series**

The 13<sup>th</sup> DL Umali Memorial Lecture Series with the topic "PA Pasture and Ruminants Industry Cluster Draft Strategic Plan" was held on 04 July 2007 at Traders Hotel, Manila.

Dr. Cesar Sevilla presented the industry strategic plan. Other resource speakers and their respective topics were: Dr. Martin Gomez of Consuela Farm, Cattle; Mr. Bienvenido Rara of Federation of Small Ruminants Association, goat; Mr. Benjamin Molina of Molina's Farm, dairy cattle and Mr. Danilo V. Fausto of DVF Dairy Farm, dairy carabao. Dr. Jovita Corpuz of Agricultural Credit Policy Council discussed credit and policy. Mr. Felix G. Valenzuela of DA-LDC represented DA Secretary Arthur Yap.

Mr. Nicomedes P. Eleazar of DA-BAR delivered the closing remarks while Acad. Ruben L. Villareal served as the master of ceremonies.

The D.L. Umali Memorial Lecture Series, which started in 1994, aims to provide a venue for the discussion of the vision of the late Dr. Umali as well as current issues regarding agriculture, environment, and other agriculture-related concerns, particularly those that impact on the welfare of the small farmers. It is also one way of keeping alive the legacy left by NS Umali, who spent most of his life working for a better quality of life for farmers and for others who have less in life.

### **Forestry Cluster Strategic Plans**

The RTD on forestry cluster strategic plan was held on March 2, 2007 at the Traders Hotel Manila. It was the third national consultation on the 14 industry strategic plans of the Philippine Agriculture 2020 (PA 2020) project. The first two were on abaca and rice and white corn in 2006. The effort was a collaboration among forestry stakeholders. The goal of the sector is to have a robust and vibrant forestry resources production systems and ecosystem services that improve and sustain human well-being in the Philippines by the year 2020. Organizers explained that the long term goal of the project would

only be realized if all concerned would put their acts together towards the attainment of a common goal. Strategic targets, activities, and priority programs for the different sub-clusters were presented to the sector. Expected outputs include indicative and doable action plans and programs for the forestry cluster with the commitments of concerned individuals and institutions.

### **ARF 3<sup>rd</sup> Annual Rice Forum and NAST Roundtable Discussion on Rice in Philippine Agriculture 2020**

The forum, co-organized by the Asia Rice Foundation, was held on 23 November 2007 at Traders Hotel Manila. The activity was the second Industry Strategic Plan (rice and white corn) under the Philippine Agriculture 2020 project; the first was on abaca. It aimed to (a) review and validate the perception of the state of the rice post harvest industry and causes of the prevailing problems, and (b) develop program concepts and discuss public and private supportive policies.

**Dr. Dante B. De Padua** of CEAT-UPLB presented the paper "Status of Rice Postharvest in the Philippines". The three concurrent workshop sessions covered topics on farm level grain center, local manufacturing development, and market quality in the rice postharvest system. Invited speakers during the workshops were **Dr. Jose Yorobe** of College of Economics and Management at UPLB, **Dr.**



**Rosendo Rapusas** of Bureau of Postharvest Research and Extension, and **National Scientist Bienvenido O. Juliano** of NAST.

NAST President and Asia Rice Foundation Chair **Emil Q. Javier** welcomed the participants. In the opening message, **Hon. Leonila Chavez**, Representative, *Butil Party*, said that her group was continuing efforts to encourage the government to have effective rice programs for the country. **Dr. Arnold Elepano** represented **DA Secretary Arthur C. Yap** and delivered his response. **Dr. Cesar P. Mamaril** of ARF and **PhilRice** served as the moderator.

The activity was also sponsored by DA-BAR, BUTIL Party, **PhilRice**, **PRPC**, and **PCARRD-DOST**.



## **Fisheries**

In cooperation with the Philippine Council for Aquatic and Marine Research and Development (PCAMRD-DOST), the Roundtable Discussion on Strategy for Sustainable Philippine Fisheries Development: The Long Term View (Fisheries Strategic Plan of Philippine Agriculture for 2020) was held on 18 December 2007 at Traders Hotel Manila. The activity aimed to review the strategic plan and action program of Philippine Fisheries (capture and culture) as embodied in the integrated and long term PA2020, and to provide a doable action program for implementation.

Acad. Rafael D. Guerrero III presented the discussion paper "Strategy for Sustainable Philippine Fisheries Development: The Long Term View". Other resource speakers were Atty. Benjamin Tabios Jr., Assistant Director of DA-BFAR, Engr. Augusto Natividad, Senior Vice President of Frabelle Fishing Corp., Mr. Rene Tayag, President of TGA Farms, and Mr. Maximo Ricohermoso, President of Marine Colloids Phil. Inc. Acad. Emil Q. Javier welcomed the 50 participants during the event while National Scientist Dolores A. Ramirez delivered the closing remarks. Mr. Cesar R. Pagdilao of PCAMRD-DOST served as the moderator and master of ceremonies.

## **Setting the Research Agenda for Coconut Oil for Health**

Sponsored through the NAST Foundation, the 2007 Symposium on "Virgin Coconut Oil: State of the Art" was held on 7 February 2007 at Traders Hotel Manila. The forum aimed to review the state-of-the-art of coconut oil for health in terms of: (a) basic science research and standards, clinical/nutrition research, public health, agribusiness, and regulation, (b) on-going researches on coconut oil for health and (c) to propose the research agenda for coconut oil for health.

Other co-organizers of the forum are the PCHRD-DOST and UP-NIH. Proceedings of the said forum was published and released in December 2007 with National Scientist Bienvenido O. Juliano as editor.



## Review of Biosafety in the Philippines

The National Academy of Science and Technology, in coordination with the National Biosafety Committee of the Philippines (NCBP), conducted a series of half-day Roundtable Discussions (RTDs) on **Biosafety Regulations In the Philippines: A Review of the First Fifteen Years, Preparing for the Next Fifteen** with experts and stakeholders in the biosafety program.

The five roundtable discussions aimed to:

- (1) *Discuss the development of the biosafety system in the Philippines from 1990—2005, taking into account parallel developments in the international arena;*
- (2) *Review the current state of knowledge (global and domestic) on modern biotechnology and biosafety;*
- (3) *Document relevant experiences of various biosafety system stakeholders from 1990—2005;*
- (4) *Identify potential challenges to the current biosafety system in the next fifteen years; and*
- (5) *Explore possible institutional responses to future challenges to the biosafety system, with focus on probable developments from 2005-2020*

The NAST and the National Committee on Biosafety of the Philippines (NCBP) with the assistance from the Program for Biosafety Systems SEAsia, organized the 5<sup>th</sup> of the series of roundtable discussion (RTD) on biosafety entitled "Animal Biotechnology and New Uses of Transgenic Crops," on 23 July 2007 at the Sofitel Philippine Plaza, CCP Complex, Pasay City. Invited speakers were Dr. Val Gidings, Vice President for Food and Agriculture of the Biotechnology Industry Organization (BIO), Washington D.C and Dr. Hector Quemada, Manager, Biotechnology and Biodiversity Interface Grant Component of Program for Biosafety Systems.

This RTD was the last of the series co-sponsored by the NCBP and NAST. The RTDs' main objectives were to review and document the experiences of the NCBP in the past fifteen years and to plan for the next fifteen years. The result of the review was transmitted to the office of DOST Secretary for appropriate action.



### **Symposium on Biofuels**

Two Symposia on Biofuels were conducted on July 24 and September 19, 2007 at Sofitel Philippine Plaza, respectively.

The primary objectives of the Symposia were to ventilate the many issues related to biofuels and develop a program of action on biofuels. The response to the Symposia by the different stakeholders was overwhelming. These stakeholders included representatives from the car manufacturers, oil companies, scientists and researchers, concerned government agencies (particularly the DOE, DOST and DA), investors, financial institutions and even the media (i.e., journalists). They all play a significant role in the development of the biofuels program in this country. The discussions focused on biodiesel and bioethanol.

### **8<sup>th</sup> Joint Student-Faculty Conference on Statistical Sciences**

The 8<sup>th</sup> Joint Student-Faculty Conference on Statistical Sciences (SFCon) was co-sponsored by NAST. The activity was held in time with the celebration of the National Conference on Statistics on October 1-2, 2007 at University of the Philippine Los Baños, Laguna.

### **International Conference on Hydrology and Water Resources Management for Hazard Reduction and Sustainable Development**

Through Acd. Leonardo Liongson, NAST co-sponsored the International Conference on Hydrology and Water Resources Management for Hazard Reduction and Sustainable Development on 19-23 November 2007.

### **Seminar-Workshop on Nuclear Power**

The National Academy of Science and Technology (NAST), in cooperation with Philippine Nuclear Research Institute (PNRI), Department of Energy (DOE), National Research Council of the Philippines (NRCF), Philippine Council for Industry and Energy Research and Development (PCIERD), and National Power Corporation (NPC) co-organized the seminar-workshop on nuclear power. The activity aimed to serve as a venue for gathering relevant information on nuclear power and discussion on the Philippine long-term energy plan. It was an initial effort to formulate recommendations on the prospects of nuclear power in the country in pursuance of the NAST function as advisory body to the Republic of the Philippines on policies concerning science and technology in the country.

Experts from the International Atomic Energy Agency (IAEA), the Nuclear Safety Research Association (NSRA) of Japan, and the Forum for Nuclear Cooperation in Asia (FNCA) were invited as resource persons in the seminar and spoke on nuclear power-related issues such as human resource development, nuclear safety, the environment, and radioactive waste management.

About 100 participants representing the government, academe, private sector, and the media actively participated in the seminar-workshop.



# SCIENTIFIC LINKAGES FUNCTION



# SCIENTIFIC LINKAGES FUNCTION

The Academy continuously maintains and explores linkages with international academies of science, technology, engineering as well as with international and regional networks and local science organizations to promote closer scientific cooperation.

The Academy has forged scientific collaboration with 29 science academies and institutions all over the world. Said linkages have enabled Filipino scientists to visit research laboratories and institutions through the exchange scientists program. There is also access to recent research findings via exchange of books and other materials.

## SCIENTIFIC LINKAGES OF NAST

### International Scientific Linkages

- Academy of Sciences Malaysia (ASM)
- Australian Academy of Sciences (AAS)
- Chinese Academy of Sciences (CAS)
- French Academy of Sciences (FAS)
- German Research Society (Deutsche Forschungsgemeinschaft or DFG)
- Indian National Science Academy (INSA)
- Korean Academy of Science and Technology (KAST)
- Korean Research Foundation (KRF)
- Malaysian Scientific Association (MSA)
- Pakistan Academy of Sciences (PAS)
- Philippine-American Academy of Science and Engineering (PAASE)
- Royal Society of London (RSL)
- The Royal Swedish Academy of Sciences (RSAS)
- Turkish Academy of Sciences (TÜBA)
- US National Academy of Sciences (US NAS)

### Affiliations to International Scientific Networks

- American Association for the Advancement of Science (AAAS)
- Association of Academies of Science in Asia (AASA)
- ASEAN Council of Academies of Science and Engineering (ASEAN-CASE)
- Federation of Asian Scientific Academies and Societies (FASAS)
- Inter Academy Panel (IAP)
- Inter Academy Council (IAC)
- Inter Academy Medical Panel (IAMP)
- Third World Academy of Sciences (TWAS)
- Third World Network of Scientific Organizations (TWNISO)

### Local Scientific Linkages

- Center for BioMolecular Science Foundation, Inc. (CBMFS)
- Center for Fluid Dynamics (CFD)
- Confederation of Scientific and Professional Organizations Region 8, Inc. (COSPO) and Department of Science and Technology Regional Office No. 7 (DOST 7)
- Philippine Association for the Advancement of Science (PhiAAS)
- Outstanding Young Scientists, Inc. (OYSI)



## **NEW MEMORANDUM OF UNDERSTANDING (MOU) SIGNED**

NAST Philippines represented by President Emil Q. Javier signed a memorandum of understanding with the Korean Research Foundation represented by President Sang-Man Huh on 11 July 2007 at the Manila Hotel. Witnessing the significant event were Mr. Sung-Mok Hong, Consul General of the Korean Embassy, and DOST Secretary Estrella F. Alabastro. Under the agreement, both parties will encourage their scientists to undertake short-term visits for purposes of exchange scientific experience, information and learning.



## **2007 KRF Capacity building Workshop for Research Management**

Ms. Luningning E. Samarita, NAST Executive Director, attended the 2007 KRF Capacity building Workshop for Research Management on November 11-16, 2007 in Seoul, Korea, which was hosted by the Korean Research Foundation (KRF). Participants acknowledged the initiative by KRF in organizing the workshop on research management and cooperation.

Two interrelated issues were discussed: One is that in the respective countries, the position of the agencies being represented by the participants is not always strong. This partially reflects that science is often not a real priority in national policies resulting in a low percentage of GDP dedicated to science. The other is that the cooperation requires resources. The research agencies from less developed countries would require financial support for developing international cooperation. Research agencies in developed countries often do not have the mandate to support such capacity building. Creating equal level cooperation requires funding from other sources for the capacity building.



## OTHER ACTIVITIES

### RP-Taiwan RTD on S&T Cooperation

The Philippines-Taiwan Roundtable Discussion on S&T Cooperation was held at Oakwood Premier, Ayala Center, Makati City on February 6, 2007. The meeting was jointly presided by Dr. Graciano P. Yumul Jr., DOST Undersecretary for Research and Development and Head of the Philippine Delegation and Prof. Chein Tai, Deputy Minister of the National Science Council of Taiwan and Head of the Chinese Delegation.

Acad. Emil Q. Javier led the Philippine delegation for the area of life sciences while Usec. Yumul led the natural sciences. The following areas were identified for cooperation:

#### Natural Sciences:

1. S&T Planning
2. Geoscience and Geodynamics
3. Atmospheric science / ICT
4. Metrology

#### Life Sciences:

1. Agricultural biotechnology
2. S&T policy and technology forecasting
3. Bio-informatics
4. Remote sensing application in agriculture
5. Tropical forest ecological research
6. Bio-geography of key freshwater & marine species
7. Food safety

## Co-sponsored Activities

### Outstanding Young Scientists, Inc. (OYSI)

The Outstanding Young Scientists, Inc. held its 2<sup>nd</sup> National Convention on July 10, 2007 at the Mabuhay Palace, Manila Hotel with the theme "Setting New Trends in Science Teaching". Academician Eliezer A. Albacea, OYSI President, led in organizing the said event, which was attended by almost eighty guests and participants. The invited speakers discussed the following topics: Dilemmas in Science Education, Math and Science Education in Context: Exploring the Impact of Selected Reform Measures on Public Elementary Schools, Lessons from the Math Wars: Perils and Challenges of Math Education Reform, and Teaching Biology with Special Reference to Parasitology.

The convention aimed to mobilize young scientists in helping chart the future directions of our nation through opportunities offered by modern science and technology.



### International Peace Foundation (IPF)

The "Bridges: Dialogues Towards a Culture of Peace," a program designed to facilitate dialogues and communications on peace and development among the member states of the Association of Southeast Asian Nations (ASEAN), was launched on November 14, 2007 at Malacañang by President Gloria Macapagal-Arroyo.

Mr. Jaime Augusto Zobel de Ayala, chairman and chief executive officer (CEO) of Ayala Corporation and Philippine chairman of Bridges, presented to the President a copy of the Bridges Program from November 2007 up to April 2008.

The activity was followed by a lecture on "Fitting globalization into the national development strategy" by Professor Robert Alexander Mundell, Nobel Laureate for Economics. In his lecture, Prof. Mundell shared his views on the world economy, globalization, information technology, the advent of the Euro, and the rise of China, among others. The event begins the series of lectures and dialogues will be conducted in different colleges and universities in the country up to April 2008.

The Academy represents DOST in the steering committee. Two of the lecture series will be handled by NAST in coordination with NRCP and PCASTRD.

*(Photo courtesy of: <http://www.news.ops.gov.ph/photo.htm>)*



### PhILAAS 56<sup>th</sup> Annual Convention

The Academy co-sponsored the holding of the PHILAAS 56<sup>th</sup> Annual Convention with the theme "Sustainable Strategies for Global Competitiveness of Philippine Agriculture" on 12-13 September 2007 in PCARRD, Los Baños, Laguna.

## Association of Academies of Sciences in Asia (AASA)

The AASA held its Board Meeting and International Symposium on August 24-28, 2007 at the Irkutsk-Listvyanka, Russia. The theme for this year will be "Environmental and Climatic Changes and Biodiversity in East Eurasia and Adjacent Areas."

## New Publications released

New NAST publications were launched in 2007. These were:

- San Francisco: Ornamental Plants of the Philippines
- Urbanization, Industrialization and Land Conversion in the Philippines: Policy Issues and Problems
- Proceedings of the Symposium on Biofuels: Way to Go Forward
- Synopsis of the Parasites of Birds in the Philippines
- NAST Monograph on Coconut Oil: Issues and Prospects
- NAST Monograph on Nurturing Science Culture
- NAST Monograph on Biology and Bioresource Management in Our Life
- NAST Monograph on VCO: State of the Art



## InterAcademy Medical Panel

The Philippines has been shortlisted among eight countries to participate in a global project on the Reduction of Perinatal and Maternal Mortality in line with the MDG Nos. 4 and 5. Acad. Thelma Tupasi requested a fellowship grant to provide funding for the secretariat of the TWG and the SHWG for the project to commence.

The scientific writing workshops in the Philippines alongside the IAMP are being coordinated with PCHRD and UP-NIH.

## Press releases/Articles published

To promote NAST activities, the Academy continuously coordinates with the radio, TV and print media. There were at least 16 interviews granted (radio and TV), 64 press releases published in major newspapers and 18 articles written by Academy Members, which were published in the Educators' Speak column of the Manila Bulletin. Details are shown in Annex A.

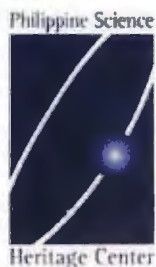




## PHILIPPINE SCIENCE HERITAGE CENTER

# PHILIPPINE SCIENCE HERITAGE CENTER

The Philippine Science Heritage Center (PSHC) was established to serve as a resource center of significant contributions of Filipino Scientists and the Philippines to the world of science. PSHC documents and displays the works, ideas, and other scientific contributions of Filipino scientists who have helped improve human lives. PSHC also holds special seminars, lectures, fora, and other audio-visual presentations to motivate the youth to pursue careers in science.



## **Seminar Workshop on Biotechnology for Science Teachers**

Two whole-day workshops were held at the PSHC Auditorium on May 28 and May 30 and one on September 29 at UST, Manila.

The first two workshops at PSHC, with 54 and 63 attendees, respectively, were participated in by teachers and science supervisors from public and private schools in different provinces as far as Ilocos Norte and Sulu.

The program started with a tour by the PSHC curator, National Scientist Benito S. Vergara and Ms. Luningning E. Samarita highlighting the *Bioteknolohiya!* exhibit. It was followed by lectures on biotechnology with Academician Evelyn Mae T. Mendoza as the speaker. The workshop in UST, on the other hand was coordinated with the Biology Teachers Association (BIOTA) lead by Prof. Rose Madulid and was attended by 130 of its members.





### **Centenary of National Scientist Geminiano T. de Ocampo**

The centennial birth anniversary of National Scientist Geminiano Tiongson De Ocampo, known as the Father of Modern Philippine Ophthalmology, was celebrated on 14 September 2007 at the Philippine Science Heritage Center.

In cooperation with the Department of Science and Technology, Dr. Geminiano T. De Ocampo Medical Research Foundation, Inc., Women of Malolos Foundation, Inc., and the family of the late National Scientist, NAST lined up a series of activities highlighted by the presentation of the 1<sup>st</sup> Geminiano T. de Ocampo Medical Researcher Award to Dr. Salvador R. Salceda.

An exhibit on the Memorabilia of National Scientist De Ocampo at the PSHC National Scientist section will run for a year. The unveiling of the Historical Marker honoring National Scientist GTDO by the National Historical Institute in Malolos, Bulacan, which was sponsored by the Women of Malolos Foundation, Inc., was also held on 16 September 2007 at the family residence in Makati City.

Like in the previous workshops, the sessions were divided into five parts/topics: (1) Traditional to Modern Biotechnology, (2) Basis of Genetic Engineering, (3) Genetic Engineering of Microorganisms Plants and Animals, (4) Current and Future Applications of Modern Biotechnology, and (5) Ensuring the Safety of Biotech Products.

The discussions were followed by an open forum, which encouraged exchange of ideas and comments/recommendations from the participants. There were also fun games and "quizzes" administered by the moderator for every topic.

A copy of the workbook *Understanding Biotechnology* by Acd. Tecson-Mendoza, a CD on *Biotech Tutorial*, and certificate of attendance were distributed to participants at the end of the session.

The seminar-workshops were co-sponsored by the Philippine Biosafety Systems (PBSEAsia) and Science Education Institute of the Department of Science and Technology.



## NAST Divisions

# NAST Divisions

## AGRICULTURAL SCIENCES DIVISION



**NS DOLORES A. RAMIREZ**, the head of the Agricultural Sciences Division, continues to serve as the Vice Chair of the National Committee on Biosafety of the Philippines and Treasurer of the NAST-Philippine Science Heritage Foundation, Inc.



**ACD. RAMON C. BARBA** continues to advise projects on tissue culture of coconuts, citrus, and mango and serves as a consultant in an agricultural and environmental consultancy firm.



**ACD. LEOPOLDO S. CASTILLO** launched four publications under the "Annotated Bibliography on Philippine Biodiversity: (Agrobiodiversity) Livestock and Poultry 1949-1997" series.



**ACD. ROMULO G. DAVIDE** is a member of the UP Board of Regents and continues his advocacy for participatory rural extension with his pioneering farmer-scientist led extension approach.



**CORRESPONDING MEMBER LIWAYWAY M. ENGLE** is a geneticist and head of the Genetic Resources and Seed Unit of the AVRDC-The World Vegetable Center in Taiwan.



**ACD. RAFAEL D. GUERRERO III** is the current Executive Director of the Philippine Council for Aquatic and Marine Research and Development of the Department of Science and Technology. He also serves as President of the Philippine Fisheries Association, Inc. and Program Leader of the National Vermicompost and Vermimeal Production Program.

## AGRICULTURAL SCIENCES DIVISION



**NS RICARDO M. LANTICAN** is an active member of the Scientific Technical Review Panel of the National Committee on Biosafety in the Philippines and a reviewer of the Bureau of Agricultural Research of the Department of Agriculture. As chair of the NAST Science Publications Committee, he regularly receives favorable comments from the readers of the column "Educators Speak" in the Manila Bulletin.



**ACD. TEODULO M. TOPACIO JR.** still serves as Professor Emeritus at the College of Veterinary Medicine, UP Los Baños and had been very active in legislation and implementation of the anti-rabies campaign.



**NS BENITO S. VERGARA** is the moving spirit behind the Philippine Science Heritage Center (PSHC) and influential member in the association of science centers and museums in the country. He is also a member of the PCARRD team on Ornamental and Horticulture and a trustee of the Asia Rice Foundation.



**CORRESPONDING MEMBER REYNALDO L. VILLAREAL** serves as coordinator for Asia Transnational Learning Program of Cornell University, which established the Cornell University distance learning modules for Biotechnology in the UP Open University and the Leyte State University.



**ACD. RUBEN L. VILLAREAL** continues the division's advocacy for Philippine Agriculture 2020 project. He has been going around the country presenting the strategic plans of the different agricultural clusters of PA 2020. He is very active in the Gawad Kalinga shelter and livelihood movement and in Rotary international activities.

## BIOLOGICAL SCIENCES DIVISION



**ACD. EMIL Q. JAVIER**, head of the Biological Sciences Division is also the President of the National Academy of Science and Technology. He is senior adviser to the Biotechnology Coalition of the Philippines, a key scientific/technology adviser to the Department of Agriculture, and Chair of the Asia Rice Foundation. He leads NAST advocacy for Philippine Agriculture 2020. He sits in the Board of Centro Escolar University and Laguna University.



**ACD. ANGEL C. ALCALA** is the current Director of the Siliman University Angelo King Center for Research and Environmental Management.



**NS CLARE R. BALTAZAR** diligently works on the inventory of Philippine Hymenoptera, Diptera, Lepidoptera, Trichoptera, Siphonaptera, Neuroptera and Strepsiptera. She also serves as honorary adviser to the Philippine Agricultural Scientist Journal.



**ACD. FILOMENA F. CAMPOS** continues to be active in her advocacy on gender issues and an active member of TWNSO.



**ACD. MAGDALENA C. CANTORIA** serves as Chair, Section on Pharmacopeia, Division IV, Pharmaceutical Sciences and Member, Board of Trustees, NRCP Research Foundation, Inc.

## BIOLOGICAL SCIENCES DIVISION



**ACD. VERONICA F. CHAN** is Director of the WHO National Influenza Center Philippines. She continues her research on WHO-Global Influenza Surveillance and is a much sought-after lecturer. She is a Professor Emeritus of the UP Manila College of Public Health and a professorial lecturer at the University of Santo Tomas.



**ACD. SALCEDO L. EDUARDO** is a full professor of Veterinary science and Curator of the UPLB Museum of Natural History, and a member of various academic and R&D advisory teams and panels.



**ACD. EDGARDO D. GOMEZ** leads researches on marine biodiversity, conservation and utilization with local and international funding. He serves as a member of the Executive Committee of the International Union of Biological Sciences (IUBS).



**ACD. ASUNCION K. RAYMUNDO** is a Professor and Dean of the College of Arts and Sciences (CAS) UP Los Baños. She also chairs the NAST Task Force on Toxic and Hazardous Wastes.



**ACD. PRESCILLANO M. ZAMORA** continues his research on Philippine Biodiversity and serves as a member of the International Union for the Conservation of Nature and as a technical reviewer for publications.

## CHEMICAL, MATHEMATICAL AND PHYSICAL SCIENCES DIVISION



**ACD. EVELYN MAE TECSON-MENDOZA** Acd. Tecson-Mendoza continues her researches with colleagues and students on the field testing of transgenic papaya with delayed ripening trait, and the biochemical and molecular studies on the oil and proteins of coconut and the storage proteins of mungbean. She has also led the development of the BS Agricultural Biotechnology curriculum of the College of Agriculture of UPLB and the GE course on biotechnology. Her advocacy in the teaching of biotechnology and scientific writing to teachers, students and researchers throughout the country continues.



**ACD. CHRISTOPHER C. BERNIDO** is currently the President of the Central Visayan Institute Foundation and founding director of the Research Center for Theoretical Physics in Jagna, Bohol.



**NS LOURDES J. CRUZ** is a Professor of Biochemistry at the Marine Science Institute, UP Diliman. She continues her research on marine snail *Conus* toxins and other marine toxins. NS Cruz is the President of the Bataan Center for Innovative Science and Technology and Center for BioMolecular Science Foundation. She leads an NGO promoting social development and economic upliftment of cultural minorities in Bataan.



**NS BIENVENIDO O. JULIANO** continues to be active in rice grain quality research at PhilRice Los Baños and in the NAST National Committee on Coconut Oil Research for Health.



**ACD. JOSE O. JULIANO** is President of the Calamba Medical Center, Vice Chair of the Board of Directors and consultant of Interphil Laboratories and board members of several companies.



**CORRESPONDING MEMBER AMADOR C. MURIEL** is currently the Director of the Molecular Theory of Turbulence Project at the World Laboratory, CERN, Geneva, Switzerland. He is an expert in the area of statistical mechanics, turbulence, and theoretical physics.

## CHEMICAL, MATHEMATICAL AND PHYSICAL SCIENCES DIVISION



**ACD. APOLINARIO D. NAZAREA** as UP Diliman professor, continues his research on vaccine design and the use of bioinformatics. He is also continuing his work [starting from A.D. Nazarea Advances in Chemical Physics, 1975] on the biophysical effects of electromagnetic fields.



**ACD. BIENVENIDO F. NEBRES, SJ** as President of the Ateneo University and Chair of the Technical Panel for Mathematics of the Commission on Higher Education, continues his tireless quest for better educational system for Filipinos.



**CORRESPONDING MEMBER BALDOMERO M. OLIVERA** is a Distinguished Professor at the Department of Biology, University of Utah. He specializes in biochemistry, neurobiology, conopeptides, key signalling molecules in the central nervous system, ion channels and receptors.



**ACD. WILLIAM G. PADOLINA** is the current Deputy Director for Operations and Support Services, International Rice Research Institute (IRRI). He is also actively involved in the promotion of the applications of modern biotechnology and entrepreneurship.



**CORRESPONDING MEMBER EDUARDO A. PADLAN** is a retired scientist of the National Institutes of Health in Maryland, USA, serves as visiting professor at UP Diliman, UP Los Baños, University of Santo Tomas, tirelessly giving lectures on protein structure and engineering and inspiring young students.



**ACD. CAESAR A. SALOMA** is the Dean of the College of Sciences at UP Diliman. He has supervised and graduated eight (8) PhD and seventeen (17) MS students at the National Institute of Physics. He is co-owner of two international patents in laser microscopy techniques.



**NS CLARA Y. LIM-SYLIANCO** is a Professor Emeritus of the University of the Philippines and continues to receive accolade for the achievements of her many students who have made a name themselves in the various fields of chemistry.

## ENGINEERING SCIENCES AND TECHNOLOGY DIVISION



**ACD. CEFERINO L. FOLLOSCO** heads the Engineering Sciences and Technology Division. An engineer, technocrat, former DOST Secretary and President of Alpha Machinery, he continues to lecture and hold dialogues on productivity, technology and industrial clustering all over the Philippines.



**ACD. ELIEZER A. ALBACEA** is a Professor and Director of the Institute of Computer Science at UP Los Baños.



**CORRESPONDING MEMBER JOSE B. CRUZ JR.** Distinguished Professor of Engineering and Professor of Electrical and Computer Engineering at the Ohio State University.



**ACD. ANGEL L. LAZARO III** is managing partner and CEO of Angel Lazaro and Associates Consulting Architects and Engineers and present chairman of the board of Civil Engineering, Professional Regulatory Commission.

## ENGINEERING SCIENCES AND TECHNOLOGY DIVISION



**ACD LEONARDO Q. LIONGSON** is a Professor of Civil Engineering and the Director of the National Hydraulic Research Center, under the College of Engineering - National Engineering Center, University of the Philippines at Diliman, in the fields of hydrology and hydraulics for water supply, flood and sediment control and river basin management. He is the editor-in-chief of the Philippine Engineering Journal. He is an active officer of the Philippine Water Partnership for the promotion of Integrated Water Resources Management.



**ACD. WILLIAM T. TORRES** is an active participant in the formulation of government policies affecting the telecommunications industry, especially Value-added Services, such as Voice Over Internet Protocol and audio/video conferencing and streaming.



**ACD. FILEMON A. URIARTE JR.**, a former DOST Secretary and currently Executive Director of ASEAN Foundation in Jakarta, Indonesia, completed a book on Solid Waste Management which will be published by UP Press, and a book on Knowledge Management, which is awaiting publication. He is currently writing a book on biofuels, with emphasis on biodiesel and microemulsified hybrid fuel from plant oils.



**ACD. REYNALDO B. VEA**, President of Mapua Institute of Technology, in addition to his administrative duties and efforts to improve engineering and technology curricula in the country, vigorously pursues the accreditation of engineering education.

## HEALTH SCIENCES DIVISION



**ACD. QUINTIN L. KINTANAR** is the Chair of the Health Sciences Division and serves as member in a number of NAST committees. He co-authored the paper: Extremely Low Frequency Electromagnetic Field (EMF) and Human Health.



**ACD. RAMON F. ABARQUEZ JR.**, as a leading cardiologist in the country, delivers technical papers in many fora on atherosclerosis, hypertension management and related topics here and abroad.



**ACD. ERNESTO O. DOMINGO**, as Vice-President and Trustee of the Philippine Cancer Society has been deeply involved in cancer control, specifically cancer epidemiology, education and pain control. As senior adviser to the Health Policy Development Program of the UP School of Economics and US AID, he is involved in a wide-ranging review of the various programs of the Department of Health. Acd. Domingo assists Senator Pia Cayetano in various health related proposed legislation as technical adviser.



**ACD. SOLITA F. CAMARA-BESA** maintains her academic ties by being an active member of the Ethics Review Board of Committee on Research Implementation and Development of the College of Medicine, UP Manila.

## HEALTH SCIENCES DIVISION



**NS FE DEL MUNDO** is the Chair of the NAST National Scientist Committee. She continues to receive awards and recognition for her significant contribution in medicine.



**ACD. EDITO G. GARCIA** although retired now, has maintained his interest in researches on schistosomiasis with fellow researchers from the Philippines and abroad.



**ACD. PERLA D. SANTOS OCAMPO** serves local and international medical organizations in various capacities. She continues to be an inspiration and model to her peers in the pediatric profession and her colleagues.



**ACD. THELMA E. TUPASI**, a newly elected Academician is currently the President of the Tropical Disease Foundation and is the official NAST representative to the Women's Health and Education Program (WHEP) of the Inter Academy Medical Panel.

## SOCIAL SCIENCES DIVISION



**ACD. MERCEDES B. CONCEPCION**, Chair of the Division, has tirelessly worked on population demographics and management. She is also the chairperson, member or consultant of different international and local programs on population.



**ACD. ALLAN B. I. BERNARDO** is currently University Fellow and Chair of the Counseling and Educational Psychology Department at De La Salle University-Manila. He is President of the Psychological Association of the Philippines, President of the ASEAN Regional Union of Psychological Societies, Secretary-General of the Asian Association of Social Psychology, and Chair of the Philippine Social Science Council. He maintains an active research and publication program in psychology and education.



**NS GELIA T. CASTILLO** continuously conducts informal "mentoring" of young researchers engaged in participatory R&D through commentaries on their research and research reports. Board and Committee memberships in different S and T or R&D bodies enable her to contribute through analysis, synthesis, and writings on the subject at hand. Interdisciplinary perspectives in S&T are her quiet advocacies. She was named 2007 Most Distinguished Alumna by the UP Alumni Association.



**ACD. LEDIVINA V. CARIÑO** is a University Professor Emeritus at the National College of Public Administration and Governance, UP Diliman. She is currently at work on a textbook on voluntary sector management, and doing research on active citizenship, trust in government and democracy.



**NS ONOFRE D. CORPUZ**, a prodigious author of Philippine history and political economy is still busy with his pen. His peers and admirers await his next monumental book.



**ACD. RAUL V. FABELLA** continues to study and lead discussions on issues related to the socio-economic status and development of the country.



## **Accomplishments of NAST Members**

## SIGNIFICANT S&T POSITIONS HELD

### **ALLAN BENEDICT I. BERNARDO**

- Member, Technical Working Group on Autonomous and Deregulated Higher Education Institutions, Commission on Higher Education.
- Member, Technical Working Group on Accreditation, Commission on Higher Education
- Member, Technical Working Group on the Curriculum Enrichment for Higher Education, Commission on Higher Education
- Member, Technical Working Group on the Evaluation of the National Higher Education Research Agenda, Commission on Higher Education
- Chair, Fact-Finding Committee on Graduate Programs on Teacher Education, Office of Programs and Standards, Commission on Higher Education
- President, Psychological Association of the Philippines
- Secretary-General, Asian Association of Social Psychology
- President-Elect, ASEAN Regional Union of Psychological Societies
- Governing Board Member, Philippine Social Science Council
- Advisory Board, Asian Association of Educational and Developmental Psychology
- Editor, The Asia-Pacific Education Researcher
- Editorial Board Member: (a) Learning Edge, (b) Asian Journal of Social Psychology, (c) Revista Electrónica de Investigación Psicoeducativa (Electronic Journal of Research in Educational Psychology),(d) Taiwan Journal of Linguistics
- Editorial Consultant: (a) *Journal of Educational Psychology*, (b) *Developmental Psychology*,(c) *RAP Journal*, (d) *Learning and Individual Difference*

### **GELIA T. CASTILLO, National Scientist**

- Consultant, International Rice Research Institute
- Senior Adviser, UPWARD (Users' Perspectives with Agricultural Research and Development, a Network of Asian Researchers doing Participatory Research and Development), International Potato Center
- Member, Executive Committee, Human Development Network
- Member, Board of Trustees, De La Salle University, Angelo King Institute for Economic and Business Studies
- Member, Board of Trustees, CARD-INC Center for Agriculture and Rural Development
- Member, Board of Trustees, CARD-CMDI CARD Microfinance Development Institute
- Member, Poster Committee, NAST 29<sup>th</sup> Annual Scientific Meeting
- Co-Chair, 2007 CHED Republica Award for Social Science
- Board of Judges (Member) Gawad Saka Award, Department of Agriculture
- Member, Board of Trustees, Philippine Rice Research Institute
- Member, Health Advisory Group CGIAR Platform on Agriculture and Health, International Food Policy Research Institute (Washington and GenevaZ)
- Member, External Review Committee for the UPLB College of Public Affairs
- Member, Center Commissioned External Review (CCER) of the IRRS Social Sciences Division
- Member, Search Committee for Senior Social Scientist and Deputy Director General for Research, International Rice Research Institute for Social Science
- Scientific Adviser for Social Science International Foundation for Science
- Member, OPAPA (Open Academy for Philippine Agriculture) Advisory Council
- Member, UPLB Community to Select Nominees for Professor Emeriti
- Resource Person – E-Forum of the ALL in CBNRM Program in Southeast Asia (Adaptive Learning and Linkages in Community-Based Natural Resource Management)
- Member, SEARCA Seed Fund for Strategic Research and Training (SFRT)

### **MAGDALENA C. CANTORIA**

- Chair, Publications Committee, National Research Council of the Philippines

### **ROMULO G. DAVIDE**

- Program Leader, Farmer-Scientists RDE Training Program
- Member, UP Board of Regents
- Consultant, without pay to the Provincial Governor of Cebu for Agriculture Development Program
- Member, Advisory Committee for MS and PhD graduate students in Plant Pathology, UPLB, CA
- Member, Board of Trustees, Cebu State College of Science and Technology

### **ERNESTO O. DOMINGO**

- Editorial Board Member, UP Press
- Chair, Technical Committee, Andres Soriano Cancer Foundation

### **EDGARDO D. GOMEZ**

- Honorary Professor, University of Queensland, 2006-2010
- Coordinator, Philippines /Southeast Asia Center of Excellence, GEF/World Bank Coral Reef Targeted Research Program
- Co-Chair, Restoration and Remediation Working Group, GEF/WB CRTR
- Board Member, UP Press

### **RAFAEL D. GUERRERO III**

- Executive Director, Philippine Council for Aquatic and Marine Research and Development
- President, Philippine Fisheries Association, Inc.
- Program Leader, National Vermicompost and Vermimeal Production Program

### **QUINTIN L. KINTANAR**

- Member, NAST Executive Council 2005-2008
- Chairman, Health Sciences Division, NAST
- Member, 30<sup>th</sup> ASM Scientific Posters Committee, NAST
- Member, 30<sup>th</sup> ASM Resolutions Committee, NAST
- Chairman, NAST Committee on Geminiano de Ocampo Centennial Celebration
- Vice-Chairman, Pharmaceutical and Healthcare Association of the Philippines (PHAP) Ethics Committee
- Elected Chairman, Special Technical Committee on Medical Sciences of the DOST-CSC Scientific Career System

### **RICARDO M. LANTICAN, National Scientist**

- Professor Emeritus, UP Los Baños
- Chairman, Board of Judges, NAST Talent Search for Young Scientists, NAST
- Member, National Scientist Award Committee, NAST
- Member, Award Committee, Third World Academy of Sciences (TWAS) Prize for Young Scientist, Annual Scientific Meetings, NAST
- Chairman, Technical Publicity Committee, which maintains a weekly column in the Manila Bulletin, NAST
- Member, Board of Judges for Outstanding Commercialization Award (NSTW-DOST Technology Award), NAST
- Member, STRP (Science and Technology Review Panel) for BPI, Department of Agriculture

### ANGEL L. LAZARO III

- Member, 28<sup>th</sup> ASM Resolutions Committee, NAST
- Member, 28<sup>th</sup> ASM Best Scientific Poster Committee and Board of Judges, NAST
- Chair, Membership and Discipline Committee, NAST
- Member, 28<sup>th</sup> ASM Finance and Exhibit Committee, NAST
- Member, ESTD 28<sup>th</sup> ASM ESTD Breakout Session, NAST
- NAST-ESTD Focal Person on Water
- Co-Chairman, Technical Panel for Engineering on Higher Education (CHED), January 2000 to present.
- Chairman, Board of Civil Engineering, Professional Regulatory Commission
- Chairman, Monitoring Assessment, TPFTA on Higher Education (CHED), 2004 to present
- Chairman, Board of Judges, Magsaysay Young Engineer/Technologist Competition, 2006

### LEONARDO Q. LIONGSON

- Professor, Department of Chemical Engineering, UP Diliman
- Director, National Hydraulic Research Center (NHRC), UP Diliman
- Affiliate Professor, Environmental Engineering and Energy Engineering Programs, UP Diliman
- Member, National Water Resources Board (NWRB)
- Chairman, UNESCO-IHP International Conference on Hydrology and Water Resources Management for Hazard Reduction and Sustainable Development (HRSD 2007)
- Chairman, Philippine National Committee for UNESCO International Hydrology Programme (UNESCO-IHP)
- National Representative, International Association of Hydrological Sciences (IAHS)
- Vice Chair & Trustee, Philippine Water Partnership (PWP)
- Member & Secretary, U.P. Engineering Research & Development Foundation, Inc. (UPERDFI)
- Editor-in-chief, Philippine Engineering Journal
- Focal Person on Water Issues, NAST

### EVELYN MAE TECSON-MENDOZA

- Research Professor 12, July 2005-to date
- UP Scientist II
- Chair, Chemical, Mathematical and Physical Sciences Division, NAST, 2003 to date
- Chair, Program Management Committee, UPLB Graduate School Molecular Biology and Biotechnology Program, Nov 2005 to date
- Head, Crop Biotechnology Division, Crop Science Cluster, College of Agriculture, UPLB, June 2006 to date
- Editor-in-Chief, Philippine Agricultural Scientist
- Overseas Editor, Bioscience, Biotechnology and Biochemistry, Published by the Japan Society for Bioscience, Biotechnology and Agrochemistry, <http://www.jsbba.or.jp>, from March 2007 to date.
- Consultant, DA Biotechnology Program Review and Planning for 2006-2016, March 2006 to date

### WILLIAM G. PADOLINA

- Editor-in-Chief, Philippine Journal of Science
- Member, Editorial Advisory Board, Asian Biotechnology and Development Review
- Acting Member, Board of Trustees, PhilRice
- Secretary, Board of Trustees, International Rice Research Institute
- Deputy Director General for Operations and Support, International Rice Research Institute

## EDUARDO A. PADLAN

- Member, International Advisory Committee, Science Diliman
- Consultant, BioMedics Inc.
- Consultant, NeoGenix Oncology, Inc.
- Consultant, PharMab, Inc.

## ASUNCION K. RAYMUNDO

- Professor I2, Institute of Biological Sciences, UPLB
- Director, Institute of Biological Sciences, UPLB (January-April 2006)
- Chair, Task Force on Hazardous Waste, NAST
- Chair, Bioremediation Research Team, NAST
- Chair, Institutional Biosafety Committee, UPLB
- Member, Institutional Biosafety Committee, IRRI
- Member, Evaluation Panel for Basic Research, UPLB
- Chair, ASM 2006 Posters Committee, NAST
- Member, ASM 2006 Resolution Committee, NAST
- Member, Publication Committee, NAST
- Member, Commission on Higher Education Technical Panel for Molecular Biology

## CAESAR A. SALOMA

- Professor, UP Diliman
- Scientist III, UP Diliman
- Director, National Institute of Physics, UP Diliman
- Chair, Division IX (Physics), National Research Council of the Philippines
- Member, CHED Technical Panel for Science and Mathematics
- Associate Member (2000-2005) – The Abdus Salam International Center for Theoretical Physics, Trieste, Italy (<http://www.ictp.trieste.it/~assoc/people/>)
- Dean, College of Science, UP Diliman

## PERLA D. SANTOS OCAMPO

- Honorary President, International Society of Tropical Pediatrics
- Honorary President, Association of Pediatric Societies of the Southeast Asian Region
- Member, the Philippine Association for the Advancement of Science (PHILAAS)
- Executive Committee Member, InterAcademy Medical Panel (IAMP)
- Active Member, National Research Council of the Philippines
- Adviser, Undergraduate Pediatric Curriculum, Philippine Pediatric Society
- Chairperson, Centennial Commission, Philippine Medical Association
- Founding President, Philippine Economic and Cultural Endowment, Inc.
- Founding President, Philippine Society for Pediatric Gastroenterology and Nutrition
- Honorary President, Philippine Society for Developmental and Behavioral Pediatrics
- Honorary Fellow, Community Pediatrics Society of the Philippines
- Honorary Fellow, Philippine Ambulatory Pediatric Association
- Honorary Fellow, Pediatric Infectious Disease Society of the Philippines
- University Professor Emeritus, University of the Philippines
- Honorary Fellow, American Academy of Pediatrics
- Honorary Member, Australian College of Pediatrics
- Honorary Member, Japan Pediatric Society
- Honorary Member, Pediatric Association of Nigeria
- Honorary President and Chairperson Emeritus, Philippine Association for the Gifted

- Member, Women Health education Program (WHEP) InterAcademy Panel (IAP)
- Member, Technical Working Group on Emerging Infections, National Academy of Science and Technology
- Advisory Member, Think Tank PGH Centennial Megaplan Projects
- Adviser, Medical Home Initiatives (Kalusugan ng Kabataan, Ating Kinabuksan (KKK), Philippine Pediatric Society)
- Adviser, Council on Community Service and Child Advocacy, PPS
- Member, Parliament of Cultures (Ankara, Turkey)

#### **TEODULO M. TOPACIO JR.**

- Professor Emeritus, University of the Philippines Diliman 1983-2004, UPLB, 2005 and present
- Member-at-Large, Governing Board, NRCP, 2004 to present
- Member, Board of Judges, NAST-Hugh Greenwood Environmental Science Award, NAST
- Member, Planning Committee, NRCP, 2004 to present
- Chair, Personnel Committee, NRCP, 2004 to present
- Member, Rabies Technical Working Group

#### **REYNALDO B. VEA**

- President, Mapua Institute of Technology
- President, Mapua Information Technology Center (MITc)
- President, Malayan High School of Science
- President, Malayan Colleges Laguna
- Member, Executive Council, ASEAN Academy of Engineering and Technology (AAET)
- Member, International Scientific Committee, 6<sup>th</sup> International Conference of the Easter Asia Society for Transportation Studies (EASTS)
- Member, Philippine-American Academy of Science and Engineering (PAASE)
- Member, Private Sector Advisory Board, Commission on Information and Communications Technology (CICT)
- Director and Treasurer, Philippine Quality and Productivity Movement (PQPM)
- Vice-Chairman, Advanced Research and Competency Development Institute (ARCDI)
- Director, Industrial Research Foundation
- Trustee, Philippine Science High School Foundation, Inc.
- Board Member, Philippine Emerging Start-Ups Open (PESO)

#### **BENITO S. VERGARA, National Scientist**

- Member, PCARRD/PROSEA Philippine Technical Committee on Medicinal Plant Booklet Series
- Member, Biosafety Committee, International Rice Research Institute (IRRI)
- Member, SCC-STC Agricultural Science, 2005-2007
- Project Leader, Collection, Evaluation and Utilization of Exportable Agricultural Products
- Trustee, Asia Rice Foundation
- Member, Ornamental Technical Working Group, NSIC
- Board Member, Los Baños Orchid Society
- Member, 28<sup>th</sup> ASM Best Poster Awards Committee, NAST

#### **RUBEN L. VILLAREAL**

- Member, Board of Judges, Outstanding R&D Award (Eduardo Quisumbing Medal – Basic Research and Julian Banzon Medal – Applied Research), NAST
- Member, RTD Committee for Forestry Cluster Strategic Plans
- Member, RTD Steering Committee for Pasture and Ruminants Industry Cluster
- Member, Asia Rice Foundation
- Member, UP Regional Alumni Institute Committee
- Member, PARRFI Board of Trustees

- Secretary General, AGHAM Party List
- Senior Deputy District Governor for International Service, RI District 3820 (2007-2008)
- Chair, Monitoring and Review Committee of Matching Grants, RI District 3820 (2007-2008)

#### PRESCILLANO M. ZAMORA

- Member, ICUN (World's Conservation Union) Species Survival Commission, Philippine Specialist Group
- Member, Board of Editors, Asia Life Sciences, The International Journal of Life Sciences
- Member, Philippine Plant Conservation Committee (PAWB-DENR)
- Member, National Committee of LTER (Longterm Ecological Research) and DIVERSITAS (an International Programme of Biodiversity Science)
- Reviewer, Asia Life Sciences Volume 16, Number 1
- Reviewer, Asia Life Sciences Volume 16, Number 2

## PUBLICATIONS

#### ALLAN BENEDICT I. BERNARDO

##### ISI Publications:

- Bernardo, A. B. I. (in press). Exploring epistemological beliefs of bilingual Filipino preservice teachers in the Filipino and English languages. *The Journal of Psychology*.
- Bernardo, A. B. I. (in press). Individual and social dimensions of Filipino students' achievement goals. *International Journal of Psychology*.
- Lucas, R. I. G. & Bernardo, A. B. I. (in press). Exploring the noun bias in Filipino-English bilingual children. *Journal of Genetic Psychology*.

##### International Refereed Publications:

- Bernardo, A. B. I. (in press). English in Philippine education: Solution or problem? In K. Bolton & M. L. S. Bautista (Eds.), *Philippine English: Language and literature*. Hong Kong: Hong Kong University Press.
- Bernardo, A. B. I. & Ujano-Batangan, M. T. (2007). Gender influences on perceived parenting characteristics and goal orientation of Filipino college students. In A. B. I. Bernardo, M. C. G. Conaco, & M. E. C. D. Liwag (Eds.), *The self, relationships, and subjective well-being in Asia: Psychological, social, and cultural perspectives* (pp. 191-207). Seoul, Korea: Kyoyook-kwahak-sa Publishing.
- Bernardo, A. B. I., & Gaerlan, M. J. M. (in press). English medium of instruction in Philippine higher education institutions: MOI policy development in an oligarchy. In C. Davison & N. Bruce (Eds.), *Language Issues in English-medium Universities across Asia*. Hong Kong: Hong Kong University Press.
- Bernardo, A. B. I. & Mendoza, R. J. (in press). *Makabayan* in the Philippine Basic Education curriculum: Problems and prospect for reforming student learning in the Philippines. In C.-H. Ng & P. Renshaw (Eds.), *Reforming learning: Issues, concepts and practices in the Asia-pacific region*. Dordrecht: Kluwer.

##### International Edited Books:

- Bernardo, A. B. I., Conaco, M. C. G. & Liwag, M. E. C. D. (Eds.) (2007). *The self, relationships, and subjective well-being in Asia: Psychological, social, and cultural perspectives*. Seoul, Korea: Kyoyook-kwahak-sa Publishing.
- Liu, J. H., Ward, C., Bernardo, A. B. I., Karasawa, M., & Fischer, R. (Eds.) (2007). *CASTING THE INDIVIDUAL IN SOCIETAL AND CULTURAL CONTEXTS. SOCIAL AND SOCIETAL PSYCHOLOGY FOR ASIA AND THE PACIFIC*. Seoul, South Korea: Kyoyook-kwahak-sa Publishing.

#### Philippine Refereed Publications:

- Bernardo, A. B. I. (2007). Language in Philippine education: Rethinking old fallacies, exploring new alternatives amidst globalization. In T. R. F. Tupas (*Re*)making society: The politics of language, discourse and identity in the Philippines (pp 1-26). Quezon City: University of the Philippine Press.
- Bernardo, A. B. I. (in press). Contrasting the old and the new Philippine pre-service teacher education curriculum. In B. Atweh, et al. (Eds.) *Ripples of change: A journey of teacher education reform in the Philippines*. Pasig City: CHED.
- Bernardo, A. B. I. (in press). Learning about learning: Cognitive processing constraints in teacher educators developing new understandings about learning and pedagogy. In B. Atweh, et al. (Eds.) *Ripples of change: A journey of teacher education reform in the Philippines*. Pasig City: CHED.

#### Philippine Edited Book:

- Atweh, B., Balagtas, M. U., Bernardo, A. B. I., Ferido, M. B., & Macpherson, I. (Eds.) (in press). *Ripples of change: A journey of teacher education reform in the Philippines*. Pasig City: CHED.

#### Others:

- Bernardo, A. B. I., & Lopez, M. R. (2007). Memory. In L. A. Teh & M. E. J. Macapagal (Eds.), *General psychology for Filipino college students* (2<sup>nd</sup> Ed., pp. 158-183). Quezon City: Ateneo de Manila University Press.

#### **MAGDALENA C. CANTORIA**

- Biodiversity Loss and Public Health, Part I, *Educators Speak*, Manila Bulletin, March 18, 2007, pp.11, 25
- Biodiversity Loss and Public Health, Conclusion, *Educators Speak*, Manila Bulletin, April 1, 2007, pp.11, G21
- Bioprospecting and Drug Discovery, *Educators Speak*, Manila Bulletin, May 20, 2007, pp. 11, 16

#### **LEDIVINA V. CARIÑO**

##### ***Completed and Published***

- "Regulatory Governance in the Philippines: Lessons for Policy and Institutional Reform," in *Regulation, Privatization and Public Sector Reform*, edited by Paul Cook and Ma. Fe V. Mendoza. National College of Public Administration and Governance, University of the Philippines, Institute for Development Policy and Management, University of Manchester, and the British Council Philippines: 1-34. 2006.

##### ***Accepted for Publication***

- *Regulatory Governance in Developing Countries*. Cheltenham, UK: Edward Elgar. Co-editor and co-author of introductory chapter with Martin Minogue. Forthcoming. To be published 2007.
- "Devolution towards Democracy: Lessons for Theory and Practice from the Philippines," in *Decentralized Governance: Emerging Concepts and Practices*. Edited by G. Shabbir Cheema and Dennis Rondinelli. To be published by Brookings Institution 2007.
- "Collective Governance: An Alternative Model for Third Sector Governance," in *Third Sector Governance in Asia* (tentative title). Edited by Samiul Hasan. Los Angeles: Springer Publications. To be published 2007.
- "Towards a Strong Republic: Enhancing The Accountability of the Philippine State," accepted for publication in the *Public Administration Quarterly*; Winter 2008 (Vol.31, No. 4)

#### **GELIA T. CASTILLO, National Scientist**

- G.T. Castillo, Reviewing and Learning from PR&D Experiences in South Asia, in *Learning Participation in Action: Field Research Experiences in South Asia* eds. Campilan D., A. Bertuso, R. Ariyabandu and L. Sister, CIP-UPWARD, 2006, Los Baños, Laguna, Philippines, [pp. 153-177]
- G.T. Castillo, Rice Culture: A Matter of time and timing, *Manila Bulletin, Educators Speak*, September 2, 2007
- G.T. Castillo, Interdisciplinary Work: Patterns and Practicalities, in *Sociology of Science and Technology Issue of the Philippine Sociological Review* January – December 2006, pp. 34-46

- G.T. Castillo, Coping with the Water Crisis, Reaction to the 2006 Human Development Report: Beyond Scarcity, Power, Poverty and the Global Water Crisis, Manila Bulletin, Educators Speak, February 18, 2007
- Toward a global Strategy for the Ex-Situ Conservation of Plant Genetic Resources, in Manila Bulletin, November 18, 2007, page 11

Various papers written for different occasions

- Greetings to Dr. Ma. Cristina Damasco Padolina on her investiture as Seventh President of Centro Escolar University "A University President, no matter which President and no matter which UNIVERSITY does not own the UNIVERSITY. She is only a STEWARD", July 17, 2007
- Can CURE Bring an End to MONGA? (Bengali word for food insecurity Synthesis and Words of Encouragement delivered during the Sixth CURE Annual Meeting of the Steering Committee, February 22, 2007
- Some thoughts on Developing a Global Strategy for Ex-Situ Conservation of Plant Genetic Resources (Synthesis Remarks made in the Consultative Workshop) May 2, 2007, Manila
- Finding People in Non-People Events: The Task of the Social Scientist, Pi Gamma Mu Diamond Lecture Series, September 25, 2007, Palma Hall, UP Diliman, Quezon City
- UP's Centennial: The University is Less Than Perfect (2007), Random Thoughts from Gelia T. Castillo
- "A Social Scientist's Autobiography in "Working Life Years", Paper presented at the UPAA Council Meeting for the Award as Most Distinguished Alumna for 2007, June 22, 2007
- Response in behalf of the 2007 UPAA Awardees, June 23, 2007
- The Platform on Agriculture and Health: An Initiative Whose Time Must Have Come (Paper prepared for the Geneva Meeting of the CGIAR Platform on Agriculture and Health), June 26, 2007
- An Assessment of the CARP and Its Impact on Rural Communities: Meso Perspective (A discussion paper presented at the National Conference on the Results of the CARP-Impact Assessment Studies, Phase II, INNOTECH-SEAMEO, Diliman, Quezon City, September 28, 2007,
- "We Can't Go Wrong With Rice" (Synthesis Remarks, IRRI annual Program Review, International Rice Research Institute, College, Laguna, November 20-23, 2007

## EDGARDO D. GOMEZ

### ISI (full papers)

- Hoegh-Guldberg, O., P.J. Mundy, A.J. Hooten, R.S. Steneck, P. Greenfield, E. Gomez, C.D. Harvell, P.S. Sale, A.J. Edwards, K. Caldiera, N. Knowlton, C.M. Eakin, R. Iglecias-Prieto, N. Muthiga, R.H. Bradbury, A. Dubi, and M.E. Hatzioles. Coral reefs under rapid climate change and ocean acidification. *Science* 318:1737-1742.
- Raymundo, L.J., A.P. Mapa, E.D. Gomez, and P. Cadiz (2007). Can dynamite-blasted reefs recover? A novel, low-tech approach to stimulating natural recovery in fish and coral populations. *Mar. Pollut. Bull.* 54:1009-1019.
- Newman, W. and E. Gomez. The significance of the giant clam *Tridacna squamosa* at Tubuai, Austral Islands, French Polynesia. *Coral Reefs* 26:909 (Comment).
- Vicentuan, K.C., M.V. Baria, P.C. Cabaitan, R.M. Dizon, R.d. Villanueva, P.M. Alino, E.D. Gomez, J.R. Guest, A.J. Heyward (2007). Multi-species spawning of corals in north-western Philippines. *Coral Reefs* DOI 10.1007/s00338-007-0325-8 (published on-line, short communication, Reef Sites)

### Book Chapter

- White, A.T., E.D. Gomez, A.C. Alcala and G. Russ (2007). Evolution and Lessons from Fisheries and Coastal Management in the Philippines. (Ch.5). Pp 88-111. In McClanahan and J.C. Castilla (eds.). *Fisheries Management: Progress Toward Sustainability*. Blackwell Publishing.

### Manuals

- Edwards A.J. and E.D. Gomez (2007). Reef Restoration Concepts and Guidelines: making sensible management choices in the face of uncertainty. Coral Reef Targeted Research and Capacity Building for Management Programme: Sta. Lucia, Australia, Iv + 38 pp.

- Mingoa-Licuanan, S.S. and E.D. Gomez (2007). Giant Clam Hatchery, Ocean Nursery and Stock Enhancement. SEAFDEC AQD, Iloilo City, AEM No. 37, x, 109 pp.

#### Local Journal

- Cabaitan, P.C., W.Y. Licuanan, and E.D. Gomez. Comparison between videographic and photographic methods in assessing coral reef benthic communities. *Science Dliiman* 19:7-13

#### Local Proceedings

- Rola, A.C., E.D. Gomez, F.M. Macaranas, F.A. Magno, and P.S. Ong. Bio-resource management and our common future? Pp. 79-107 In M.B. Concepcion (ed.) *Biology and Bio-resource Management in our Life*. Proc. NAST Soc. Sci. Div. Roundtable Discussion on Biology as Destiny? NAST, Manila, 180 pp.

#### RAFAEL D. GUERRERO III

- Guerrero, R.D. III. 2007. Vermimeal: does it have a future? *Earthworm Digest*, 10(9):35-39

#### QUINTIN L. KINTANAR

- White paper on Electromagnetic Field and Health
- Statement on Electromagnetic Field and Health, Manila Bulletin, April 15, 20007

#### RICARDO M. LANTICAN, National Scientist

- Serendipity: Accidental Leads Result in Great Discoveries, Manila Bulletin, January 28, 2007
- Intuitive Ideas and Early Scientific Discoveries, Manila Bulletin, February 11, 2007
- Great Minds That Were Ahead of their Time Part I., Manila Bulletin, April 29, 2007
- Great Minds That Were Ahead of their Time Part II, Manila Bulletin, May 6, 2007
- A Lineage of Excellence in Science, Manila Bulletin, July 22, 2007
- The Human Side of Great Scientists, Manila Bulletin, August 19, 2007
- Coal - the Most Plentiful but Dirtiest Energy Source, Manila Bulletin, October 28, 2007
- The Revival of Nuclear Energy, Manila Bulletin, December 16, 2007

#### EVELYN MAE TECSON-MENDOZA

- Tecson-Mendoza EM. 2007. Development of functional foods in the Philippines. *Food Sci. Technol. Res.* 13: 179–186.
- Maruyama N, EM Tecson-Mendoza, Y Maruyama, M Adachi and S Utsumi. 2007. Molecular design of soybean proteins for enhanced food quality. In: *Functional Foods and Biotechnology* (K. Shetty, G. Paliyath, A. L. Pometto, and RE Levin, Eds.) CRC-Taylor and Francis, pp. 25–50.
- Nebres BF, Tecson-Mendoza EM. 2007. Building a culture of science here. *Educators Speak*. Manila Bulletin, July 8, 2007.

#### EDUARDO A. PADLAN

##### Articles Published

- M.P.David, J.J. Asprer, J.S. Ibane, G.P. Concepcion and E.A. Padlan (2007) "A study of the structural correlates of affinity maturation: Antibody affinity as a function of chemical interactions, structural plasticity and stability" *Mol. Immunol.* 44, 1342-1351.
- C.P. Mikita and E.A. Padlan (2007) "Why is there a greater incidence of allergy to the tropomyosin of certain animals than to that of others?" *Medical Hypotheses* 69, 1070-1073.
- E.A. Padlan "A novel method for designing vaccines against constantly mutating pathogens" (submitted)
- E.A. Padlan "Viruses versus Humans: Can We Win the War?" *The Philippine STAR (Business Features, Science & Technology, STAR SCIENCE)*, Thursday, Jan 18.

- E.A.Padlan "On scientific publications" The Philippine STAR (Business Features, Science & Technology, STAR SCIENCE), Thursday, Jun 7 (reprinted as a News Feature by the SEARCA Biotechnology Information Center e-News Service, Jun 27).
- E.A.Padlan "The biology of the visible and the invisible" The Philippine STAR (Business Features, Science & Technology, STAR SCIENCE), Thursday, Aug 30.
- E.A.Padlan "Our science, their science" The Philippine STAR (Business Features, Science & Technology, STAR SCIENCE), Thursday, Sep 27.

#### TEODULO M. TOPACIO JR.

- "A UP College of Human and Comparative Medicine". Manila Bulletin, March 4, 2007
- "Reliance on the UPCVM Alumni that the College Can Rely on any Occasion." To be published in the UPCVM Centennial Commemorative Book 2008
- "At the Helm of the UPCVM – Contributions of all the Past Deans". To be published in the UPCVM Centennial Commemorative Book 2008
- "An Innovative Organizational Approach in the Prevention, Control and Eradication of Animal Diseases in the Philippines." Published in the International OIE News Bulletin, November 2007.
- "Disease, Threats and Outlook: The Future of Veterinary Practice". Read during the Annual Convention PVMA North Mindanao Chapter, Ozamiz City, Occidental Misamis, Aquamarine Park, Conference Hall, November 8-9, 2007.
- Co-editor. "Bridging the Gaps: Parental Rabies Vaccine vs Oral Vaccine". Printed in the Monograph Proceedings of Rabies Forum held at the National Institutes of Health, UP Manila, January 19, 2007.
- "Implementing Rules and Regulations of the Anti-Rabies Law RA 9482" Contributor as the Chairman of the National Advisory Committee for Animal Disease Control and Emergency (NAC ADCE), November 23, 2007.

#### RUBEN L. VILLAREAL

- VILLAREAL, R.L. Health, Hunger and Humanity: Strategies for Development. Plenary paper at the 3820 District Conference 2007. Manila Hotel, Manila. 2-3 March 2007.
- VILLAREAL, R.L. 2007. Science and Technology Updates. Paper presented in a number of fora: RC Marikina (4 January); RC San Pedro (30 January); RC San Pablo (31 January); Philippine Society of Animal Nutritionists, Palms Country Club, Alabang (15 February); RC Marikina Central (2 May); UP Alumni Regional Institute, Davao City (23 February); University of Rizal System, Morong, Rizal (1 March) and Philippine National University, Manila (1 March).
- VILLAREAL, R.L. 2007. Research and Technology Management: A Regional Perspective. Paper presented at the Continuing Education Program on RTM for NARRDS' Leader-Managers. PCARRD, Los Baños, Laguna. 9 June 2007.
- VILLAREAL, R.L. 2007. Does tertiary education need changing? *In* Educators Speak, Manila Bulletin. 24 June 2007.
- VILLAREAL, R.L. 2007. Vegetable gardening for nutrition and income. *In* Educators Speak, Manila Bulletin, 25 November 2007.

#### PRESCILLANO M. ZAMORA

- Contributor, 2007 PAWB-DENR Document entitle "Framework for Philippine Plant Conservation Strategy and Action Plan, Diliman, Quezon City"
- Zamora, P.M. 2007, The Richness of Philippine Ferns: Their Uses and Study, pages 32-44. In: Fourth Symposium on Asian Pteridology and Garden Show , Farmers' Training Center, Central Mindanao University, Musun, Bukidnon, Philippines, November 13-14, 2007

## RESEARCHES

### A. COMPLETED

#### ALLAN BENEDICT I. BERNARDO

Manuscripts submitted for publication in 2007:

- Bernardo, A. B. I. (2007). Exploring social axioms and epistemological beliefs of Filipino students.
- Bernardo, A. B. I. (2007). Language, learning, and medium of instruction in multilingual contexts: An information-processing components perspective.
- Bernardo, A. B. I. (2007). Perceived parental socialization for academic achievement, achievement goals, and academic performance: Gender differences in Filipino university students.
- Bernardo, A. B. I., & Ismail, R. (2007). Perceptions of achieving students and achievement goals of students in Malaysia and the Philippines.
- Bernardo, A. B. I., Limjap, A. A., Prudente, M. S., & Roleda, L. S. (2007). Student perceptions of science classes in the Philippines.
- Bernardo, A. B. I., Salanga, M. G. C., & Aguas, K. M. C. (2007). Filipino adolescent students' conceptions of learning goals.
- Atweh, B., Bernardo, A. B. I., & Balagtas, M. U. (2007). Capacity building as a collaborative model in international development projects: Lessons for the Philippines. In R. Coll & N. Taylor (Eds.), *Education in context: An international examination of the influence of context on science curricula development and implementation*.
- Liem, A. D., Nair, E., Bernardo, A. B. I., & Prasetya, P. H. (2007). Are basic values fully crystallized in middle adolescence? Evidence from Singapore, the Philippines, Indonesia, and Australia.
- Liem, A. D., Nair, E., Bernardo, A. B. I., & Prasetya, P. H. (2007). In the students' own words: Etic and emic conceptual analyses of why and how students learn.
- Liem, A. D., Nair, E., Bernardo, A. B. I., & Prasetya, P. H. (2007). Values, classroom social interaction, and approaches to learning: The influences of sociocultural context on social and learning behaviors.

#### ERNESTO O. DOMINGO

- Seroprevalence of antibodies to the hepatitis e-virus in an urban community in Manila, Philippines

#### EDGARDO D. GOMEZ

- Project Coordinator, Coral Reef Habitat and Productivity Enhancement, Funding Agency-PEW Charitable Trust (2001-2005)

#### RAFAEL D. GUERRERO III

- Effect of Vermicompost on the Yield of Upland Rice in Plastic Containers (In Press, ASIA LIFE SCIENCES)
- Effect of Ferrous Sulfate as Fertilizer for the Production of Seaweed and Milkfish in Brackishwater Ponds

#### EVELYN MAE TECSON-MENDOZA

- As Project Leader. Field Testing of Transgenic Papaya with Delayed Ripening Trait Toward Commercialization. EMERGE-USAID (06-008), (September 2006–June 2007)

#### REYNALDO B. VEA

- Regional Accreditation Systems in Engineering Education

## RUBEN L. VILLAREAL

- Mitigating Disaster in Philippine Agriculture: Focus on Forestry with Virgilio a. Fernandez, Emil Q. Javier, et. Al.

## PRESCILLANO M. ZAMORA

- Zamora, P.M., 2007, Supplementary Report on the Terrestrial Biodiversity of Panamaon, Loreto, Dinagat, Mindanao (Commissioned Research)
- Zamora, P.M., 2007, Philippine Drynarioid Ferns
- Zamora, P.M., 2007, Philippine Cheilantheid Ferns
- Zamora, P.M., 2007, One Hundred Years of Philippine Fern Study (1904-2005)
- Zamora, P.M., 2007, Checklist: Flora of Mt. Apo, Mindanao, Philippines: Ferns and Fern Allies
- Zamora, P.M., 2007, Checklist: Fern Flora of San Ramon, Zamboanga del Sur Mindanao

## B. ON-GOING

### ALLAN BENEDICT I. BERNARDO

- "Filipino adolescents' learning behaviors: Personal choice or social regulation?" DLSU-Manila, University Research Coordinating Office, Research Faculty Grant

### ROMULO G. DAVIDE

- Influence of the Farmer-Scientists Research, Development and Extension Training Program (FSTP) on the Alleviation of Poverty and Hunger of Poor Farmers
- Effects of FSTP on the Social and Economic Upliftment of Poor Farmers in Rural Communities

### ERNESTO O. DOMINGO

- Prevalence and Risk Factor in Non-alcoholic fatty liver
- UP Manila: Created out of a vision, is it fulfilling its mission?

### EDGARDO D. GOMEZ

- Principal Investigator, Enhancing Recovery by Transplantation of Corals, Funding Agency- GEF/WB, (2005-2009).
- Principal Investigator, Developing Ubiquitous Practices for Restoration of Indo-Pacific Reefs (Philippines: WP3), Funding Agency- EU INCO/DEV (2005-2008)

### RAFAEL D. GUERRERO III

- Fingerling Production and Culture of Sex-Reversed Mozambique Tilapia (*Oreochromis mossambicus*) in Brackishwater Ponds

### EVELYN MAE TECSON-MENDOZA

- As Project Leader. Control of Ripening in Papaya and Mango by Genetic Engineering with Drs. AC Project leader. Introgression of PRSV Resistance into Transgenic Papaya with Delayed Ripening Trait and Field Testing Toward Commercialization. DA Biotech PIU. Started July 2007 (3 years)
- Study Leader, Physicochemical and Molecular Studies on Storage Proteins of Coconut(IPB Core Fund; Phase I 2003-Dec 2006; Phase II, 2007-2008)

- As Study Leader. Molecular Strategies to Improve the Nutritional and Functional Qualities of Mungbean (IPB-UPLB Core Fund; Phase I, May 1999–December 2006; Phase II, 2007–2008)
- As Project Leader. Engineering Methionine in Vicilin to Improve the Nutritional Quality of Mungbean [*Vigna radiata* (L.) Wilczek], funded by UP System Creative Research Scholarship Program (September 30, 2006 to December 2006); Extended to June 2007.
- As Project Leader. Development and Operationalization of an Interactive Database and Website of the Philippine Agricultural Scientist (CA-UPLB; January 2004–June 2008)
- Study Leader, Chemical and biochemical analysis of browning mango tissue culture, DOST

#### ASUNCION K. RAYMUNDO

- Phytoremediation of Abandoned Mines in Mogpog Marinduque

#### REYNALDO B.VEA

- Substantial Equivalency in Outcomes-Led Accreditation Systems in Engineering Education

#### BENITO S. VERGARA, National Scientist

- Collection, Evaluation and Utilization of Exportable Agricultural Products

#### RUBEN L. VILLAREAL

- Building a science culture in Laguna with Los Baños as pilot through improved math and science education

#### PRESCILLANO M. ZAMORA

- Zamora, P.M., Biodiversity of Ultramafic Forest in the Philippines
- Zamora, P.M., Biodiversity of Dinagat Island
- Salvador-Tolentino, V.D., D. Fernando, and P.M. Zamora, Developmental Morphology of the Petroleum Nut Plant

### S&T POLICY AND PROGRAM IMPLEMENTATION INCLUDING CONFERENCES/SEMINARS, ETC.

#### ALLAN BENEDICT I. BERNARDO

##### International Conferences/Scientific Meetings

- Paper Presenter, "Exploring the Relationship between Social Axioms and Epistemological Beliefs of Filipino Students." 7<sup>th</sup> Biennial Conference of the Asian Association of Social Psychology, Kota Kinabalu, Malaysia, July 2007.
- Paper Presenter (w/R. Ismail), "Perceptions of Achieving Students and Achievement Goals of Students in Malaysia and the Philippines." 7<sup>th</sup> Biennial Conference of the Asian Association of Social Psychology, Kota Kinabalu, Malaysia, July 2007.
- Paper Presenter (w/N. Kintanar), "Exploring Filipino Counselors' Beliefs about Learning." 7<sup>th</sup> Biennial Conference of the Asian Association of Social Psychology, Kota Kinabalu, Sabah, Malaysia, July 2007.
- Discussant, Symposium on "The State of the Art of Japanese Social Psychology." 7<sup>th</sup> Biennial Conference of the Asian Association of Social Psychology, Kota Kinabalu, Malaysia, July 2007.
- Discussant, Symposium on "Cultural Values and Achievement Motivations" 7<sup>th</sup> Biennial Conference of the Asian Association of Social Psychology, Kota Kinabalu, Sabah, Malaysia, July 2007.

#### Philippine Conference/Scientific Meetings

- Paper Presenter (w/E. Macugay), "Science and Math Teachers' Beliefs and Misconceptions: The Undiagnosed Problem." Seminar Workshop on Misconceptions in Science and Mathematics Education, National Institute of Science and Mathematics Education, UP Diliman, Quezon City, February 2007.
- Paper Presenter, "On the Development of Research Capacities and Research Cultures in Universities." Annual Conference of the Philippine Association of Colleges of Arts and Sciences, De La Salle University-Manila, February 2007.
- Paper Presenter, "Relatedness and Autonomy Orientations Influence Filipino Adolescent Students' Achievement Motives and Academic Achievement." Annual Conference of the Philippine Association for Counselor Education, Research, and Supervision." Bayview Hotel, Manila, February 2007.
- Keynote Speaker, "Undergraduate Psychology Students: Shapers of the Future of Psychological Science." Psynergy: First Philippine Psychology Students Congress, University of the Philippines-Diliman, Quezon City, March 2007.
- Paper Presenter (w/N. Kintanar), "Exploring Filipino Counselors' Beliefs about Learning." Annual Convention of the Psychological Association of the Philippines, Tagbilaran City, Bohol, August 2007.
- Paper Presenter, "One + One = Magellan? Two + Two = Lapu-Lapu? Filipino Bilinguals' Cognitive Processing Of Number Facts." Inaugural Lecture of the Emy M. Pascasio Memorial Lecture Series, Linguistic Society of the Philippines, Ateneo de Manila University, Quezon City, September 2007.
- Paper Presenter, "Organizational Constraints in Developing the Teaching-Research Nexus in Private Higher Education Institutions in the Philippines." International Conference on Research in Higher Education Institutions, Commission on Higher Education, Waterfront Hotel, Cebu City, October, 2007.
- Discussant, Roundtable discussion on the DepEd CyberEd Project. Manila Times Education Group and UP National Institute for Science and Mathematics Education, UP NISMED, Quezon City, November 2007.
- Resource Person, "The Lasallian Core Curriculum and Pedagogical Principles for Transformative Learning." Workshop for Administrators, De La Salle University-Manila, January 2007; Workshop of College of Liberal Arts Faculty, February 2007; Workshop of College of Education Faculty, February 2007.
- Resource Person, "Participatory Action Research in Student Services." Workshop for the Student Programs and Services Administrators, De La Salle University-Manila, March 2007.
- Resource Person, "Using Tests and Surveys for Classroom-Based Research." Lasallian Institute for Filipino Teacher Educators, De La Salle University-Manila, April 2007.
- Resource Person, "Developing and Strengthening Research Environments in Teacher Education Institutions." Lasallian Institute for Filipino Teacher Educators, De La Salle University-Manila, April 2007.
- Resource Person, "Publishing in International Refereed Psychology Journals: General Guidelines and Principles." Summer Workshop of the Psychological Association of the Philippines, April 2007.
- Resource Person, "Research and Publications in Academe: Alternative Perspectives." Tahilan Residence Hall, July 2007.
- Resource Person, "Publishing in International Refereed Psychology Journals: General Guidelines and Principles." Continuing Professional Education Workshops, Annual Convention of the Psychological Association of the Philippines, Tagbilaran City, Bohol, August 2007.
- Resource Person, "Publishing in Refereed Journals: A Conceptual and Practical Guide to Research and Publications." Seminar-Workshop of the Office of Institutional Research, Brokenshire College, Davao City, September 2007.
- Resource Person, "Principles of Learning." Seminar-Workshop on Teaching History Using the Transformative Learning Framework (Visayas Region), University of St. La Salle, Bacolod City, November 2007.

#### **MAGDALENA C. CANTORIA**

- Participant, "Strengthening Health Journal Publishing in the Philippines", a forum sponsored by the Philippine National Health Research System and the Philippine Psychiatric association, Inc., held at the Seminar Room, Advanced Science and Technology Institute, UP Technology Park, University of the Philippines Diliman, Quezon City, August 17, 2007

## GELIA T. CASTILLO, National Scientist

- Resource Person, International Consultative Workshop on Developing a Global strategy for ex situ Conservation of Sweet Potato, city Garden Hotel, Makati City, Metro Manila, April 30 – May 2, 2007
- Resource Person, Making Rural Institutions Work for the Poor: A Consultative Workshop, CIP-UPWARD, Los Baños, Laguna, September 5, 2007
- Resource Person, CIP-UPWARD Consultation Workshop on Enhancing Tarlac College of Agriculture's Strategic Plan for Sweet Potato R&D, Camiling, Tarlac, Feb. 6, 2007
- Resource Person, Sixth CURE (Consortium for Unfavorable Rice Environments) Annual Meeting of the Steering Committee, Vientiane, Lao, PDR, Feb. 21-23, 2007
- Resource Person, Learning Workshop on ECD-CBNRM (Evaluating Capacity Development in Community-Based Natural Resource Management), Subic Bay, Olongapo City, January 9-12, 2007
- Resource Person, Workshop on Phil-Rice Project on Policy, Market and Impact Research, Tagaytay City, January 31, 2007
- Panelist, Young Economists Convention on Employment and Social Dimensions of Globalization: Long-term Development Plans for the Employment Sector in the Philippines, Angelo King International Convention Center, February 2, 2007
- Participant, Symposium on Virgin Coconut Oil: State of the Art, Traders Hotel, February 7, 2007
- Participant, General Assembly Meeting of the Human Development Network, Institutions, Politics, and Human Development, Balay Kalinaw, UP Diliman, Quezon City, March 28, 2007
- Speaker, UPAA Council Meeting Bahay ng Alumni, UP Diliman, Quezon City, June 22, 2007
- Delivered Response in Behalf of UPAA Awardees, General Alumni Homecoming, Bahay ng Alumni, UP Diliman, Quezon City, June 22, 2007
- Participant and Member of the Health Advisory Group, Platform on Agriculture and Health Meeting in Geneva, Switzerland, June 25-27, 2007
- Board Meeting, Angelo King Institute of Economic and Business Studies, De La Salle University, June 21, 2007
- Delivered a message during the Investiture of Dr. Ma. Cristina Padohina as President of Centro Escolar University, July 17, 2007
- Participant, ADB Policy Forum on Agriculture and Rural Development for Reducing Poverty and Hunger in Asia: In Pursuit of Inclusive and Sustainable Growth (Organized by IFPRI at the Asian Development Bank), August 9-10, 2007
- Project visits to six village sites of Rice Knowledge Bank Utilization, Victoria, Bay and Infanta, Quezon, August 29-30, 2007
- Participant, Workshop on Poverty and Income Dynamics in Rural Asia and Africa, Sponsored by the 21<sup>st</sup> Century Center of Excellence of the National Graduate Institute for Policy Studies, Tokyo, Japan and the International Rice Research Institute, September 3-4, 2007
- Lecturer, Pi Gamma Mu Lecture Series, Palma Hall, UP Diliman, Quezon City, September 25-2007
- Discussant of Report on Assessment of the Comprehensive Agrarian Reform Program and Its Impact on Rural Communities II: Meso Perspective, SEAMEO-INNOTECH, Diliman, Quezon City, September 28-, 2007, National Conference on the Results of the CARP-Impact Assessment Studies Phase II
- Participant, Conference on Biofuels Development in Southeast and East Asia: Policy Issues and Research Agenda, Makati, Metro Manila, Oct. 7, 2007
- Resource Person, Sweet Potato Field Day and Mass Graduation of Farmer Field School on Integrated Crop Management Focused on SP-CPM Production, Mapalacsiao, Tarlac City, October 19, 2007
- Guest, PhilRice 22<sup>nd</sup> Anniversary and Recognition Day, November 5, 2007
- Participant and Synthesis Presenter, IRR1 annual Program Review, International Rice Research Institute, November 20-23, 2007

## ROMULO G. DAVIDE

- Attended and presented a paper "Farmer-Scientists RDE Training Program in Corn-Based Production System for Sustainable Agriculture Development to Liberate Poor Farmers from the Bondage of Poverty and Hunger" at the Symposium on the Changing Role of the Applied Social Sciences in Agriculture and Community Development.

Sponsored by the UPLB College of Public Affairs (CPAF) and SEAMEO-Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA)

#### ERNESTO O. DOMINGO

- Temporary Adviser, WHO, Immunization Program in the Western Pacific Region: Assessment and Revision of Plan, Tokyo, Japan, March 7-8, 2007
- Senior Adviser, USAID-University of the Philippines, School of Economics, Health Research Project
- Speaker, Opening Ceremonies, 4<sup>th</sup> Midyear Convention, Philippine society of Gastroenterology, Baguio City, November 18, 2007

#### EDGARDO D. GOMEZ

##### International

- Invited Speaker. Coral Reef Targeted Research and Capacity Building for Management. Future Leaders Forum. 10-14 December 2007. Brisbane, Australia.
- Presenter, Terminal project report. Pew Fellows Program in Marine Conservation 2007 annual Meeting. 30 November to 04 December 2007. Morro Bay, California, USA
- GEF-CRTR Synthesis Panel Meeting. 30 October to 02 November 2007. Quezon City, Philippines
- EU/REEFRes Project Annual Meeting. 13 October 2007. Pasig City
- Regional Workshop on Coral reef Restoration. 8-12 October 2007. Bolinao, Pangasinan.
- GEF/CRTR RRWG Annual Meeting. 06 October 2007. Pasig City.
- Executive Committee Meeting. IUBS GA and Symposium. 9-13 May 2007. Washington D.C., USA
- Subcommittee Meeting of the GEF CRTR Synthesis Panel. 18-22 February 2007. California, USA

##### National/Local

- 29<sup>th</sup> Annual Scientific Meeting, National Academy of Science and Technology: Building a Culture of Science in the Philippines. 11-12 July 2007. Manila
- 74<sup>th</sup> National Research Council of the Philippines (NRCP) Annual Meeting: Crossing Disciplinary Boundaries for National Development. 8 March 2007. Manila

#### RAFAEL D. GUERRERO III

- Guerrero, R.D.III. 2007. Effect of Vermicompost on the Yield of Upland Rice. Paper presented at the 27th Annual PAASE Meeting and Symposium, Century Park Hotel, Manila, 15-17 January 2007
- Guerrero, R.D.III. 2007. The Status, Current Trends and Future Directions for Production and Technology of Fisheries in Southeast Asia, Paper presented at the Conference of Fisheries and Poverty, Renaissance Hotel, Makati, Metro Manila, 23-24 March 2007.
- Guerrero, R.D.III. 2007. Commercializable Fisheries Technologies from the Government R & D Institutions. Paper presented at FISHLINK 2007, Iloilo City, 17-19 May 2007.
- Guerrero, R.D.III. 2007. The Culture and Use of Earthworms as Source of Animal Protein in the Philippines, Paper presented at the Indo-US Workshop on Vermi Technologies for Human Welfare, Coimbatore, India, 4-7 June 2007.
- Guerrero, R.D.III. 2007. Status and Prospects of Tilapia Farming in Southeast Asia. Paper presented at TILAPIA 2007, Kuala Lumpur, Malaysia, 23-25 August 2007.
- Guerrero, R.D.III. 2007. The Commercial Potential of Vermicompost and Earthworm Biomass Production and Their Use for Aquaculture. Paper presented at the 56th Annual Convention of the PHILAAS, LosBanos, Laguna, 12-13 September 2007.
- Some Bioactive Properties of Vermimeal Produced from Cultured "African Night Crawler" (*Eudrilus eugeniae*), Poster presented at the 2nd National Convention of the Outstanding Young Scientists of the Philippines, Inc., Manila Hotel, 10 July 2007.

## QUINTIN L. KINTANAR

- Lecture on ELF-EMF and Health, Quezon City, September 6, 2007
- Lecture on ELF-EMF and Health, Cebu City, November 9, 2007
- Lecture on ELF-EMF and Health, Davao City, November 29, 2007
- Lecture on the Revised PHAP Ethics Code on Pharmaceutical Marketing to the Philippine Neurological Association Mid-year Convention, April 7, 2007
- Guest, PCHRD 25<sup>th</sup> Anniversary Celebration, March 16, 2007
- Roadmap for the Health Sciences at NAST 29<sup>th</sup> ASM by Quintin L. Kintanar and Jaime C. Montoya
- Participant, Dr. Juan Salcedo Jr. Memorial Lecture sponsored by the Philippine Nutrition Foundation, October 17, 2007

## RICARDO M. LANTICAN, National Scientist

- Presented a technical paper on "Precision Agriculture" during the 56<sup>th</sup> Annual Convention of the Philippine Association for the Advancement of Science on September 12, 2007 at PCARRD Auditorium

## EDUARDO A. PADLAN

- Guest lectures, Course on Proteins, Institute of Chemistry, UP Diliman, Jul 11, 18, 25, Aug 1
- Lecture, Concepcion Dadufalza Award ceremony, UP Diliman, Jul 12
- Guest lecture, Special Topics Course on Molecular Biology, Graduate Studies, UP Los Banos, Jul 27
- Guest lecture, Graduate Seminar Series, Graduate Studies, UP Los Banos, Jul 27
- Invited lecture, Department of Chemistry, Ateneo de Manila University, Aug 2
- Guest lectures, Course on Cellular and Molecular Immunology, NIMBB, UP Diliman, Nov 12, 15, 19, 22, Dec 3, 6
- Lecture, Ayala Foundation Innovation Forum, Filipinas Heritage Library, Makati City, Nov 21
- Lecture, Graduate Forum, College of Science, UP Diliman, Dec 5
- Guest lecture on Molecular Immunology, Ateneo School of Medicine and Public Health first year students, Dec 4
- Guest lecture, course on Cancer: Molecular Mechanisms and Targets of Diagnostics and Therapeutics, Marine Science Institute, UP Diliman, Dec 6

## EVELYN MAE TECSON-MENDOZA

- Tecson-Mendoza EM. 2007. Publishing in the Philippine Agricultural Scientist. DOST Scientific Career System and Philippine Association of Career Scientists, DOST, February 28, 2007.
- Tecson-Mendoza EM. 2007. Understanding Biotechnology for High School. NAST Biotech Workshop. May 28, 2007, May 30, 2007
- Tecson-Mendoza EM. 2007. Writing Publishable Scientific Papers. OVCRE UPLB. June 1, 2007, August 17, 2007.
- Tecson-Mendoza EM. 2007. Thirty Years of Philippine Biotechnology: Policies, Programs, Products and Prospects. Presented during the Report on Biotechnology in the Philippines. Hotel Intercontinental 25 June 2007.
- Tecson-Mendoza EM. 2007. Roadmap for developing a culture of science through effective basic math and science education. Plenary Session. National Academy of Science and Technology Annual Scientific Meeting, July 12, 2007, Manila Hotel, Manila.
- Tecson-Mendoza EM. 2007. Introduction to Biotechnology. ERDB-DENR-NCBP. July 18, 2007, College, Laguna.
- Tecson-Mendoza EM. 2007. Moderator and Emcee, NCBP-NAST RTD on Biosafety Review. Animal Biotechnology and New Uses of Transgenic Crops. Sofitel Philippine Plaza Hotel. July 23, 2007 ~80
- Tecson-Mendoza EM. 2007. Principles of Biotechnology. KKP-ST Technical Seminar at Southern Luzon State University, July 28, 2007, Lucban Quezon.
- Tecson-Mendoza EM. 2007. Guest Speaker. Science Fair and Exhibits '07, Los Baños National High School Tuntungin-Putho. September 27, 2007. ~200
- Tecson-Mendoza EM. 2007. Understanding Modern Biotechnology. NAST-BIOTA-PBS Biotech Workshop for High School Teachers. UST, September 29, 2007.

- Tecson-Mendoza EM. 2007. Career Opportunities. My Career Path—from Chemistry to Blomolecular Sciences. TOWNS, Manila Doctors College, Manila, October 22, 1007.
- Tecson-Mendoza EM. 2007. Guest Speaker. UPRHS Sci-Math Fair and Exhibits 2007. Bay, Laguna. October 23, 2007.
- Tecson-Mendoza EM. 2007. Plenary Speaker. Towards Understanding Some Biochemical and Molecular Aspects of Coconut. 34<sup>th</sup> Annual Convention of the Philippine Society for Biochemistry and Molecular Biology, PhilRice Nov. 29-Dec 1, 2007.
- Tecson-Mendoza EM. 2007. Chair, Workshop on Developing a Biochemistry and Molecular Biology Consortium. 34<sup>th</sup> Annual Convention of the Philippine Society for Biochemistry and Molecular Biology, PhilRice Nov. 29-Dec 1, 2007

#### TEODULO M. TOPACIO JR.

- Attended all regular meetings of the NAST Agricultural Sciences Division
- Closing Remarks. Rabies Forum: "Bridging the Gaps: Parental vs Oral Rabies Vaccine, UP National Institutes of Health, January 19, 2007
- Attended the necrological services and burial military honors for NS Jose R. Velasco, January 30, 2007
- Met and lobbied for Senate Anti-rabies Bill No. 2451 at Senator Cayetano's office, January 31, 2007
- Lobbied at the Batasan Cong. Yapha for approval of HB 4654 and was approved on the floor on February 20, 2007
- Recommended to DA Secretary Arthur C. Yap to certify as urgent to President Arroyo and sign the consolidated anti-rabies bills into law.
- NAST Annual Scientific Meeting (ASM), July 11-12, 2007, Manila Hotel.
- NRCP Annual Scientific Convention. March 4, 2006. Manila Hotel.
- NRCP Governing Board
- NAST General Assembly Meeting. February 22, 2007. Bicutan, Taguig.
- PVMA (Philippine Veterinary Medicine Association) Convention. February 21-22, 2007. Philippine Plaza Manila
- NAST-Hugh Greenwood Environmental Science Award Board of Judges Meeting, March 14, 2006. Casino Español
- NAST-Hugh Greenwood Environmental Science Award. Awarding Ceremonies. April 18, 2007. Heritage Hotel.
- Philippine Academy for Microbiology Annual Meeting. May 3, 2007. Heritage Hotel.
- Tendered testimonial luncheon to Senator Pia Cayetano for passage of the Anti-rabies Bill in the Senate. People's Palace Restaurant. June 15, 2007. Makati.
- DL Umali Lecture on Small and Large Ruminants. July 4, 2007. Traders Hotel.
- Recommended the NAST Resolution on the endorsement of the Animal Health Code by DOST Secretary Estrella F. Alabastro to DA Secretary Arthur C. Yap for sponsorship as a bill to the congress.
- DOST Secretary Alabastro endorsed the resolution to DA Secretary Yap on July 16, 2007
- Testimonial luncheon tendered to Cong. Defensor and Arlene Custodio for the passage of the anti-rabies bill in Batasan. July 26, 2007. Muang Thai Restaurant, Quezon City.
- Facilitated the publication of RA 9482 in two local newspapers: Malaya and Taliba. August 22, 2007.
- Attended all meetings of the rabies TWG for drafting the IRR of the RA 9482
- Met with Dr. Arthur Angulo, Head of the Vet. Med. Diagnostic Laboratory Texas A and M University, USA and Consultant for Bird Flu Diagnosis to the BAI. August 17, 2007.
- Inspirational speech. Ten Vet Board Exam Topnotchers. September 17, 2007. Club Filipino. San Juan City
- Met with Quezon City Veterinarian, Dr. Cabel, for the rabies control program of the city and the construction of the dog pound for the city. November 6, 2007.
- Annual Convention of the PVMA North Mindanao Chapter, Ozamis City, Occidental Misamis. November 8-9, 2007. Aquamarine Conference Hall. Approved the Chapter Code of Technical Standards for veterinary medicine.
- IRR of the Anti-rabies Law 9482 finished by the TWG. November 23, 2007 and submitted to the Secretaries of DA, DOH, DILG and DepEd for approval.
- NAST RTD on Rice Post Harvest Practices in connection with PA 2020. November 23, 2007. Traders Hotel.
- NRCP Planning Strategy. November 30 to December 1, 2007. DAP, Tagaytay City.
- Met with the officers of the Korean Research Foundation and witnessed the signing of the MOA with NRCP. December 7, 2007. Traders Hotel.

## REYNALDO B. VEA

- Convener. First Meeting of the Technical Working Group on Philippine Membership in the Washington Accord. UNESCO and NAST Foundation, Inc. December 2007. Manila.
- Co-organizer. Seminar on the ASEAN Perspective on Human Resource Capacity Building in Engineering. ASEAN Academy of Engineering and Technology (AAET), November 2007. Cebu City, Philippines.
- Philippine Delegate. Meeting of the Working Group for Asia Engineering Education Accreditation Accord. Federation of Engineering Institutions in Southeast Asia and the Pacific (FEISEAP). November 2007. Cebu City, Philippines.
- Panelist. Advancing Competitive of Human Capital; Issues: Knowledge and Skills, 25<sup>th</sup> National Quality and Productivity Congress and 3<sup>rd</sup> National Assembly of Quality and Productivity Organizations, Philippine Quality and Productivity Movement. October 2007. Makati City.
- Member. International Scientific Committee and Technical Session Organizer, 7<sup>th</sup> International Conference, Eastern Asia Society for Transportation Studies (EASTS), September 2007. Dalian, China.
- Philippine Delegate. First Meeting of the Asian Network for Engineering Education Accreditation. August 2007. Penang, Malaysia.
- Moderator. NAST-ESTD Technical Session on Philippine Membership in the Washington Accord, NAST Annual Scientific Meeting. July 2007. Manila.
- Commencement Speaker. University of the Philippines at Diliman, April 2007. Quezon City.
- Resource Speaker. Building the Competitiveness of the S&T Workforce, National Conference on Improving Competitiveness Through S&T Human Resource Development, Science Education Institute, Department of Science and Technology. March 2007. Manila.
- Panel Discussant. Enhancing Industry-Academe Linkage, Private Education: Gearing Up for the Next Generation, 2<sup>nd</sup> National Congress of the Coordinating Council of Private Educational Associations (COCOPEA). February 2007. Manila.
- Resource Speaker. The Global Application of Engineering, 14<sup>th</sup> Distinguished Alumni Lecture Series, University of the Philippines - College of Engineering and the University of the Philippines Alumni Engineers. February 2007. Quezon City.
- Plenary Speaker. Academe and Industry: Synergizing for Global Cooperation and Competitiveness, 68<sup>th</sup> National Convention of the Philippine Institute of Chemical Engineers (PIChe). February 2007. Manila.

## RUBEN L. VILLAREAL

- Association of Colleges of Agriculture in the Philippines (ACAP) convention held at the Pampanga Agricultural College, Magalang, Pampanga. 1 February 2007.
- Guest, Kapihan sa Davao hosted by the Davao Press Club, SM Davao City. 19 February 2007.
- Reactor, Gender Peace and Environment, UP Regional Alumni, Davao City. 23 February 2007.
- Moderator, RTD for Forestry Cluster Strategic Plans, Traders Hotel, Manila. 2 March 2007.
- Plenary Speaker, Health, hunger and humanity: Strategies for Development, R.I. District 3820 District Conference, Manila Hotel. 3 March 2007.
- RTD on Science Careers, Traders Hotel, Manila. 8 June 2007.
- 13<sup>th</sup> DL Umali Memorial Lecture Series PA2020: Pasture and Ruminants Industry Cluster, Draft Strategic Plan Presentation, Traders Hotel, Manila. 4 July 2007.
- Speaker, Educating the youth in the prospects of agriculture, 2007 NAST Annual Scientific Meeting, Manila Hotel. 11 July 2007.
- Roundtable discussion on Biosafety Regulations in the Philippines: A review of the first 15 years, preparing for the next 15 years (last of the series), Sofitel Philippine Plaza Hotel, Roxas, Blvd., Pasay City. 23 July 2007.
- Lecturer, Seminar-workshop for garden teachers Los Baños Central School, Los Baños, Laguna. 11 October 2007.
- Speaker, Building a Science Culture in Laguna, 2007, Division Semestral Training Program in Elementary Mathematics, Lopez Elementary School, Los Baños, Laguna. 22-26 October 2007.
- UNESCO HP International Conference on Hydrology and Water Resources Management for Hazard Reduction and Sustainable Development, Intercon Hotel, Manila. 19 November 2007.
- ARF Annual Rice Forum 2007 and NAST, RTD on PA2020: Protecting the Rice Farmers' Harvest: The Way Forward, Traders Hotel, Manila. 23 November 2007.

- Lecturer, Building a Science Culture in Laguna, 2007 District Training Program in Elementary Mathematics, Lopez Elementary School, Los Baños, Laguna. December 7, 10 & 11, 2007.

#### **PRESCILLANO M. ZAMORA**

- Speaker (in absentia), The Richness of Philippine Ferns (Filicopsida): Their Uses and Study. Fourth Symposium on Asian Pteridology and Garden Show, Central Mindanao University, Musuan, Bukidnon, November 12-18, 2007

### **HONORS AND RECOGNITION RECEIVED**

#### **SOLITA F. CAMARA-BESA**

- The UP Medical Alumni in America (UPMASA) presented "Four Doctors in Concert" featuring Jorge G. Camara, M.D., piano; E. Alan Ongtengco, M.d., piano; Enrique M. Ostrea, M.D., piano and Danilo B. Soriano, M.D., violin. The concert was held on Sunday, July 1, 2007 at 7:30 p.m. in Wynn Hotel in Las Vegas, Nevada to raise additional funds for the Dr. Solita F. Camara-Besa Academic Distinction Award, established in 2005 and first awarded to a distinguished medical faculty member in 2006. The award is given every even-numbered year starting in 2006. The concert raised \$15,000 for the Award to be presented to the UP College of Medicine in December 2007. A souvenir program booklet featuring details of the concert and tributes to Dr. S. F. Camara-Besa from alumni classes and individual alumni has been received by the honoree.

#### **GELIA T. CASTILLO, National Scientist**

- Most Distinguished Alumna for 2007 (awarded in June 2007), University of the Philippine Alumni Association (UPAA), Bahay ng Alumni, UP Diliman, Quezon City
- International Awardee, Pi Gamma Mu International Honor Society in Social Science, Philippine Alpha Chapter, March 7, 2007, UP Diliman, Quezon City

#### **ROMULO G. DAVIDE**

- The GAMMA SIGMA DELTA 2007 Distinguished Award in Agriculture, GAMMA SIGMA DELTA, The International Honor Society of Agriculture, October 24, 2007
- Plaque of Recognition as Member of the Board of Trustees, Cebu State College of Science and Technology. Given by the President of CSCST and CHED Chairman, Region 7, February 24, 2007

#### **ERNESTO O. DOMINGO**

- Most Outstanding Alumni for 2007, UP Medical Alumni Society (UPMAS)
- Centennial Fellow, University of the Philippines

#### **EDGARDO D. GOMEZ**

- Honorary Professor (University of Queensland, Australia, 2005-2008)

#### **RAFAEL D. GUERRERO III**

- Centennial Special Citation, awarded by the Central Luzon State University, Science City of Munoz, 12 April 2007
- Certificate of Recognition, Kalinga Apayao State College, Tabuk, Kalinga, 28 August 2007

#### **RICARDO M. LANTICAN, National Scientist**

- Honorary Fellow Award during the 50<sup>th</sup> Foundation Anniversary of the Gamma Sigma Delta Honor Society on October 24, 2007 at UPLB, College, Laguna

#### **EVELYN MAE TECSON-MENDOZA**

- Distinguished Researcher Award. Gamma Sigma Delta. Honor Society of Agriculture, UPLB Chapter.
- 2006 Best Poster Award. Cabanos CS, Tecson-Mendoza EM, Garcia, RN, Laurena AC. Substantial Equivalence between Transgenic Papaya with Long Shelf Life and the Conventional Solo Papaya Confirmed by Biochemical Analyses. 28<sup>th</sup> Annual Scientific Meeting of the National Academy of Science and Technology, Manila Hotel, Manila July 12-13, 2006.
- 2007. Best Poster, Rodelas, AJD; Regalado, EM; Bela-ong DB, Garcia RN; Laurena AC; Tecson-Mendoza EM. 2007. Oil bodies and oil-associated proteins from coconut (*Cocos nucifera* L.): characterization and a modified method for isolation. Federation of the Crop Science Societies of the Philippines, June 15, 2007, DAP, Tagaytay City
- 2007. Best Poster, Rodelas, AJD; Regalado, EM; Bela-ong DB, Garcia RN; Laurena AC; Tecson-Mendoza EM. 2007. Oil bodies and oil-associated proteins from coconut (*Cocos nucifera* L.): Characterization and a modified method for isolation. Kapisanan ng mga Kimiko sa Pilipinas-Southern Tagalog Chapter, Nov 7, 2007, LGATC, College, Laguna
- 2007. Best Poster 2nd place, Angelia MRN; Garcia RN; Prak K; Utsumi S; Tecson-Mendoza EM. 2007. Physicochemical and functional characteristics of cocosin and its unique emulsifying behavior. Philippine Society for Biochemistry and Molecular Biology, Nov 30, 2007, PhilRice, Muñoz, Nueva Ecija

#### **EDUARDO A. PADLAN**

- Concepcion Dadufoza Award for Distinguished Achievement, University of the Philippines
- Honorary Member, Philippine Society for Biochemistry and Molecular Biology
- Balik Scientist Award (Short Term), DOST

#### **TEODULO M. TOPACIO JR.**

- Lifetime Service Award to the veterinary profession. February 21, 2007.
- PVMA Centennial Award on the 100 years of the Association

#### **RUBEN L. VILLAREAL**

- 2007 Outstanding Gamma Sigma Deltan, conferred by the Gamma Sigma Delta Honor Society of Agriculture on its 50<sup>th</sup> anniversary on 24 October 2007 at Senior's Social Garden, UPLB.

#### **PRESCILLANO M. ZAMORA**

- Recipient, Plaque of Recognition "for invaluable support and immeasurable contribution to conserve and protect Philippine biodiversity". Given by the DENR during the celebration of the International Day for Biological Biodiversity at the Ninoy Aquino Parks and Wildlife Center, Diliman, Quezon City, May 26, 2007
- Recipient, Certificate of Appreciation (through Dr. Victor B. Amoroso) as Resource Speaker during the Annual Membership Meeting cum Scientific Forum of the Association of Systematic Biologists held at the Conference Hall, National Museum, Manila on May 26, 2007
- Recipient, Plaque of Appreciation "for having faithfully and unselfishly served as Mentor and Researcher for 49 years in the field of pteridology, plant morphology and systematics with the thrusts of upholding a holistic academic excellence and imparting a great sense of value and integrity in the academe and the society". Given during the Fourth Symposium on Asian Pteridology and Garden Show, Central Mindanao University, Musuan, Bukidnon, Philippines, November 13, 2007

- Recipient, Certificate of Appreciation as paper presenter during the Fourth Symposium on Asian Pteridology and Garden Show held at the Farmers' Training Center, Central Mindanao University, Musuan, Bukidnon, Philippines, November 13, 2007

## PATENTS

### A Patent Granted

#### EDUARDO A. PADLAN

- P.S.Mezes, R.A.Richard, K.S.Johnson, J.Schlom, S.V.S.Kashmiri, L.Shu and E.A.Padlan "Composite antibodies of humanized human subgroup IV light chain capable of binding to TAG-72", US7179899 (Granted Feb 20, 2007)
- S.V.S.Kashmiri, E.A.Padlan and J.Schlom " Variants of humanized anti-carcinoma monoclonal antibody CC49", US7256004 (Divisional of US6818749 (Granted Aug 14, 2007))
- E.A.Padlan "Method for designing hypoallergenic molecules for use in allergy desensitization with lessened chance of anaphylaxis, or as vaccines against allergic reactions" Provisional patent application: US60/858,601, filed: 11/14/2006; Nonprovisional patent application filed: 6/26/2007

## FINANCIAL REPORT

### National Academy of Science and Technology

#### BALANCE SHEET

As of December 31, 2007

#### ASSETS

##### Current Assets

Cash	P	926,726.92	
Receivables		1,983,796.09	
Inventories		47,977.25	
Prepaid Expenses		24,455.85	P 2,982,956.11

##### Property, Plant and Equipment

Property, Plant and Equipment		7,192,140.22	
Less: Accumulated Depreciation		4,204,239.26	2,987,900.96

**TOTAL ASSETS** P 5,970,857.07

#### LIABILITIES AND EQUITY

##### Liabilities

Current Liabilities			P 6,196,457.61
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##### Equity

Government Equity			(225,600.54)
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**TOTAL LIABILITIES AND EQUITY** P 5,970,857.07

### National Academy of Science and Technology

#### STATEMENT OF INCOME AND EXPENSES

As of December 31, 2007

Income P 22,424,585.07

##### Less: Expenses

Personal Services	P	4,572,585.60	
Maintenance and Operating Expenses		19,702,353.55	
Financial Expenses		0.00	24,274,939.15

Excess of Expenses over Income P (1,850,354.08)

## NAST EXECUTIVE COUNCIL

- President : ACD. EMIL Q. JAVIER
- Vice President : ACD. LEDIVINA V. CARIÑO
- Secretary : ACD. EVELYN MAE TECSON-MENDOZA
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**Office of the Director**

**Ms. Luningning E. Samarita**  
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**Ms. Reihvelle A. Perez**  
Planning Officer III

**Ms. Virginia Francia O. Gavica**  
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**Administrative Services Division**

**Ms. Rosemarie S. Espino**  
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**Ms. Zenaida T. Mapua**  
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**Mr. Roberto L. Arat**  
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Administrative Aide I  
(Vacant)

**Technical Services Division**

**Mr. Aristotle P. Carandang**  
Information Officer V

**Ms. Rowena V. Briones**  
Information Officer III

**Ms. Charyl C. Apuyan**  
Administrative Aide VI

## ANNEX A

**Table 3. TV and RADIO INTERVIEWS**

NO	Stations	Host	Interviewee	Date	Program
1	DZEM	Ms. Julie Fernando and Mr. Jun Evangelista	Ms. Luningning E. Samarita	June 28	Balita, Impormasyon at Publiko
2	DWDD	Ms. Belle Lazatin	Ms. Luningning E. Samarita	July 3	Gloria ng Bayan
3	DZBB	Mr. Raul Vertudazo	Ms. Luningning E. Samarita	July 7	Tanong ng Bayan
4	DZRB	Mr. Wally	Ms. Luningning E. Samarita	July 14	Radyo ng Bayan
5	DZRM	Ms. Tess Ramirez	Ms. Luningning E. Samarita	July 20	Sulyap sa Teknolohiya
6	DZAR	Mr. Tony Cuevas	Ms. Luningning E. Samarita	July 22	Talakayan Bayan
7	DZMM	Mr. Angelo Palmones	(NAST 29 <sup>th</sup> ASM announcement)		
8	DZAR	Mr. Tony Cuevas	(NAST 29 <sup>th</sup> ASM announcement)		
9	Radyo ng Bayan	Ms. Mely Tenorio	(NAST 29 <sup>th</sup> ASM announcement)		
10	UNTV 37		Ms. Luningning E. Samarita		Kaagapay
11	UNTV 37		Ms. Luningning E. Samarita		Pilipinas gising ka na ba?
12	NBN 4		Ms. Luningning E. Samarita		The morning show
13	NBN 4	}	Dr. Emil Q. Javier and	July 13	
14	UNTV 37		Dr. Estrella F. Alabastro	uly 13	
15	RPN		(attended the ASM)	July 13	
16	NBN 4		Ms. Luningning E. Samarita and Mr. Aristotle P. Carandang	Nov. 7	

**Table 4. PRESS RELEASES**

NO	Publication	Title	Author	Date	Page
1	Manila Bulletin	National Scientist Velasco dies	Madel Sabater	Jan. 26	12
2	The Philippine Star	Requiem for plant physiologist	Domini M. Torrevillas	Jan. 30	
3	Philippine Daily Inquirer	Coco oil forum today		Feb. 7	A-8
4	Manila Bulletin	Producers told to improve VCO quality to thwart rivals	Madel Sabater	Fe. 8	B-1
5	The Philippine Star	RP remains top exporter of virgin coconut oil	Madel Sabater	Feb. 9	C-2
6	Manila Bulletin	PCA awards Dr. Dayrit	Helen Flores	Feb. 15	B-6
7	The Philippine Star	Dayrit recognized			B-4
8	Philippine Daily Inquirer	National Scientist Jose R. Velasco cited		Mar. 11	A-5
9	Philstar.com	Pinoy named Harvard Scientist of 2007	Doreen G. Yu	Mar. 15	
10	Malaya	Ecotourism in forestry plan gains government support	Aristotle P. Carandang	Mar. 15	16

NO	Publication	Title	Author	Date	Page
11	Philstar.com	On Being a Teacher	Doreen G. Yu	Mar. 16	
12	Peoples Journal	Cruz joins elite National Scientist list	Aristotle P. Carandang	Apr. 1	3
13	Business Mirror	Cruz joins elite National Scientist list	Aristotle P. Carandang	Apr. 2	B-14
14	Manila Bulletin	The fascinating colors of Los Baños	Benito S. Vergara	Apr. 3, 7	C-3
15	Prime Newsweek	Biochemist conferred National Scientist title	Aristotle P. Carandang	Apr. 9	3
16	Prime Newsweek	Salceda, Villafuerte endorse forestry plan	Aristotle P. Carandang	Apr. 9-15	3
17	Prime Newsweek	Photo release re: launching of San Francisco			Apr. 9-15
18	Manila Bulletin	A Fun way to discover science		Apr. 14	C-2
19	Reporter	Mga Kontrobersiya sa Virgin Coconut Oil (VCO) binigyang-linaw	Divine Reyes	Apr. 10	24
20	Prime Newsweek	VCO today and Tomorrow	Divine Reyes	Apr. 22	3
21	Manila Bulletin	2 lady scientists get environment award from DOST	Madel Sabater	Apr. 19	1 and 5
22	Philippine News Agency	Marine Biologist, ecologist feted for works protecting the environment	PNA	Apr. 19	
23	Manila Bulletin	Photo release re: Acd. EQJ conferred the Rolando Andaya Sr. Award in Open and Distance Learning		Apr. 29	9
24	Manila Bulletin	Young scientist develops animation kit for teachers, hobbyists	Madel Sabater	May 3	B-9
25	Manila Bulletin	National Scientist Paulo Campos passes away at 85	Madel Sabater	June 5	1 & 6
26	The Philippine Star	On Science Publication		June 7	B6-B7
27	Business Mirror	National Scientist Paulo Campaña Campos, 85	Guada Ramos	June 11	C-3
28	Malaya	Paulo C. Campos: Pillar of medicine	A. G. Romualdez	June 12	A-5
29	Manila Bulletin	PCC: Dasmarinas patriarch passes away		June 12	D-4
30	Manila Bulletin	Losing a distinguished friend	Beth Day Romulo	June 14	10
31	People Balita	NAST, patuloy na kumukilala sa mga kursong nakatuon sa Agham	Divine Reyes	June 16	
32	Manila Bulletin	Photo release re: OYS 2nd Annual Convention	Manny Llanes	July 11	1
33	Philippine Daily Inquirer	Luly Cruz, National Scientist	Queena N. Lee-Chua	July 4	17
34	Business Mirror	DOST to lead science week; NAST to hold scientific meeting		July 9	C-3
35	Manila Bulletin	NAST ASM Supplement		July 11	17
36	Manila Bulletin	RP scientists start annual scientific meeting	Madel Sabater	July 11	12
37	Manila Bulletin	Strategies bared to made goat industry sustainable	Melpha M. Abello	July 12	B-5
38	People's Balita	29 <sup>th</sup> ASM ng NAST Binuksan	Divine Reyes	July 12	4
39	Manila Bulletin	Photo Release	Manny Llanes	July 12	8
40	Business Mirror	Breeding math, science wizards	R.R. Reyes	July 12	1
41	Manila Bulletin	DOST scholars pushed	Madel Sabater	July 15	11
42	Philippine Daily Inquirer	First Pinay Oceanographer to the rescue	Angelina Goloy	July 15	A-6

**Table 5. LIST OF PUBLISHED ARTICLES IN  
THE EDUCATORS SPEAK COLUMN OF THE MANILA BULLETIN**

Author	Title Of The Article	Date Published
Dr. Fernando A. Bernardo	<b>Our urgent need: S&amp;T Universities</b>	January 28, 2007
NS Gelia T. Castillo	<b>Coping with the water crisis</b>	February 18, 2007
Acad. Teodilo M. Topacio	<b>A concept proposal for the establishment of the UPLB College of Human and Comparative Medicine</b>	March 4, 2007
Acad. Magdalena C. Cantoria	<b>Biodiversity loss and public health</b>	Part I – Mar. 18, 2007 Part II – Mar. 25, 2007 Part III – April 1, 2007 April 15, 2007
Acads. Filemon A. Uriarte Jr., Quintin L. Kintanar, Apolinario D. Nazarea, Emil Q. Javier NS Ricardo M. Lantican	<b>Electromagnetic Fields and High-Voltage Power Lines</b>	April 15, 2007
Acad. Magdalena C. Cantoria	<b>Great Minds that are Ahead of their Time</b>	Part I – April 29, 2007 Part II – May 6, 2007
Acad. Ruben L. Villareal	<b>Bioprospecting and Drug Discovery</b>	May 20, 2007
Acad. Bienvenido F. Nebres, SJ,	<b>Does Tertiary Education Need Changing</b>	June 24, 2007
Acad. Evelyn Mae T. Mendoza	<b>Building A Culture of Science Here</b>	July 8, 2007
NS Ricardo M. Lantican	<b>A Lineage of Excellence in Science</b>	July 22, 2007
NS Ricardo M. Lantican	<b>The Human Side of Great Scientists</b>	August 19, 2007
NS Gelia T. Castillo	<b>Rice Culture: A Matter of Time and Timing</b>	September 2, 2007
Acad. Rafael D. Guerrero III	<b>Climate Change and Local Fisheries</b>	October 7, 2007
NS Ricardo M. Lantican	<b>Coal: The Most Plentiful but Dirtiest Energy Source</b>	October 28, 2007
NS Gelia T. Castillo	<b>A Global Strategy for Conservation of Plant Genetic Resources</b>	November 18, 2007
Acad. Ruben L. Villareal	<b>Vegetable Gardening for Nutrition and Income</b>	November 25, 2007
NS Ricardo M. Lantican	<b>Revival of Nuclear Energy</b>	December 9, 2007
NS Gelia T. Castillo	<b>Finding People in Non-People Events</b>	December 23, 2007

**National Academy of Science and Technology, Philippines**

3<sup>rd</sup> Level, Science Heritage Building  
DOST Compound, Gen. Santos Avenue  
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