

BUILDING OUR MOMENTUM FOR TOMORROW

2010 Annual Report



SEI Annual Report 2010

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introduction

Science Education Institute Annual Report 2010

S ONE ADMINISTRATIVE term ended and another began, the Institute takes pride at having come a long way towards making a positive impact on the country's S&T condition. Despite the constant budgetary constraints, along with the tragic natural calamities and man-made tragedies faced by students and their families in the metro and the regions, SEI was able to maintain the various scholarship programs that, for thousands of young impoverished students every year, provide the most viable path towards obtaining S&T education, and for the country to develop a critical mass of S&T human resources. Laudable efforts to track their progress and make them productive citizens of the country have also been undertaken.

The implementation of the National Science Consortium was also one of the significant undertakings of the past year. It will definitely enhance the capability of the Philippine higher education system to produce technically competent PhD and MS graduates through resource sharing, collaborative academic and research activities, as well as providing ample graduate scholarships to promising Filipino scientists and researchers. The consortium, initiated during the term of past DOST Secretary Estrella Alabastro, now enjoys the full support of the Aquino administration under current DOST Secretary Mario Montejo.

Education and the S&T environment

The importance of implementing these and many others initiatives cannot be emphasized enough, especially in light of what has been confirmed as the worsening "brain drain" situation, which according to the S&T Skills Migration Study, jumped by 148 percent over an 11-year period spanning 1998 to 2009. This exodus has vast impact on many aspects of Filipino socio-economic and cultural life, a deficiency that no amount of dollar remittances can ever recover.

Clearly, efforts to produce a pool of R&D and S&T personnel must be complemented with efforts to raise their economic welfare and well-being here, if they are to derive personal benefits from staying and contributing their skills for the good of the country.

As though to underscore the problem further, the Global Competitiveness Report of 2009-2010, published by the World Economic Forum, revealed that the Philippines now ranked 87 among 133 countries, after occupying the rank of 71 in the two previous years. The Report uses 12 pillars of competitiveness – 1) Education, 2) Infrastructure, 3) Macroeconomic Stability, 4) Health and Primary Education, 5) Higher Education and Training, 6) Goods Market Efficiency, 7) Labor Market Efficiency, 8) Financial Market Sophistication, 9) Technological Readiness, 10) Market Size, 11) Business Sophistication, and 12) Innovation.

In all but three pillars, which are Higher Education and Training, Market Size, and Business Sophistication, our country occupies the lower half of the percentile. These competitive indices clearly exhibit our deteriorating level of productivity vis-a-vis other countries in the world, and help determine our economic capability to achieve a sustained level of prosperity for our people.

Building the basics

The Global Competitiveness Report is eye-opening as it discloses what pillars we have to concentrate on to maintain our competitiveness at this stage of our development. These are primarily the first four – Institutions, Infrastructure, Macroeconomic Stability, and Health and Primary Education.

Institutions like the Science Education Institute therefore play the strategic role of contributing to the basic building blocks of our national competitiveness, economic productivity and prosperity. By performing its mandate of undertaking science education and training, S&T manpower development, and coordinating with various public and private organizations imbued with the same visions, we help develop our internal capacity for scientific knowledge and culture.

As local S&T-based industries and infrastructure continue to grow and stabilize, and as we continue to raise the standards of education, we will create the ideal environment that will attract and retain Filipino experts in science, engineering, research and education, agriculture and other primary fields of progress. They will embark on projects that will in turn facilitate the transfer of skills and knowledge to government agencies, academe and our communities, thus creating a symbiotic relationship that will ultimately enhance our competitiveness and way of life.

This is the ideal scenario that we all must pursue to prevent our indices from slipping down further. As President Aquino said in his inaugural speech, we must focus on infrastructure, increase agriculture productivity, and raise the standards of education. He has committed a budget of P50 billion for developing these priority areas within his term, by far the highest budget ever allocated for R&D, hitting the 0.3 percent portion of our gross domestic product (GDP), the minimal amount recommended by UNESCO for a country's R&D expenditure.

The identified priority areas, after all, are the basic sectors of any society, and no country will progress and be capable of integrating advanced developments without meeting these needs. These are the building blocks towards higher levels of productivity that will help create jobs, expand social realizations, and lay the foundations for economies that are competitive in the long term.

Message from the

Secretary

My best wishes and congratulations to the Science Education Institute (SEI) for a successful 2010.

Through the years, SEI has been the Department of Science and Technology's lead agency tasked with designing and implementing innovative science education programs, promoting S&T culture, and investing on capability-building efforts to address the country's constant need for S&T manpower resources.

The gains it has achieved should always guide them in fulfilling their mandated tasks and responsibilities as it pursue recommendations for greater emphasis on priority areas such as engineering, biotechnology, and nanotechnology that, like education, affect vast aspects of our lives.

In truth, though, our journey will not always be along this same road, together we will open new avenues for present involvement and future growth. Momentum is on our side as seen in the increasingly favorable public perception of government agencies involved in education and S&T, rising student participation rate, and recognition by international organizations.

The Science Education Institute shall remain the DOST's torch bearer in leading the populace toward S&T literacy and culture through its scholarships, innovative science education programs, and all other interventions to popularize science among the youth as well as to motivate science educators. Rest assured that the Department will always be on hand to provide the proper environment to enable SEI to dutifully serve its various publics.

MARIO G. MONTEJO

Department of Science and Technology

Director

There are plenty of reasons to be optimistic about the year in review, and the years to come.

First and foremost, the new administration has shown a strong determination to provide an enabling environment for the country's growth and competitiveness in science and technology education. It is promoting innovations in these areas, instituting drastic albeit controversial yet truly much needed reforms in education to meet the actual needs of industry and economic players, and finally has supported the human resource development programs for S&T through a substantial increase in the budget.

Another reason why things are looking up for us at the Institute is that, along with our mother agency, the Department of Science and Technology, and our numerous partners from the public and private sectors, we have achieved many important headways in our various initiatives, projects, and other supported activities. We are very much excited, for starters, about the proposals to empower students as early as Grade 1 with interactive digital tools, like the tablet PC, to familiarize them with current technologies and how these can enhance learning and performance.

We were also able to launch advanced training initiatives for math and science teachers, more targeted to their needs and specializations. In terms of manpower development program, we are pleased to finally implement the National Science Consortium, which is expected to enhance our capability to produce technically competent PhD and MS graduates, and to collaborate on and share academic and research resources among the consortium members. This is the third advanced human resources development program formed by DOST-SEI in partnership with selected Philippine universities in the last thirty years.

Along with all these, we are able to continue to support a healthy number of S&T scholars and maintain a regular stream of graduates, numbering a total of 1,215 in 2010 across our spectrum of programs. We anticipate this number to continue rising as more and more high school students get much-needed exposure in S&T activities locally and internationally – such as the 2010 World Robot Olympiad that our country was able to successfully host for the first time.

Slowly but surely, our environment is truly becoming more supportive of our S&T policies and programs. Increasing impetus from the government and private spheres, combined with the intensifying prevalence of technology in our dayto-day lives, lead more Filipinos to realize that the pursuit of S&T knowledge and applications is not only lucrative as a profession, but is the path to be more competitive and progressive as a nation.

> ESTER B. OGENA, Ph.D. Science Education Institute

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highlights

Science Education Institute 2010 Achievements

At the end of AY 2009-2010, DOST-SEI produced 1,215 graduates from its undergraduate scholarship programs, 274 graduating with academic honors. RA 7678 or the Science & Technology Scholarship Act of 1994, continues to support the most number of scholars, producing 821 graduates last year, while the MERIT scholarship program produced 119 graduates.

The **DOST-SEI Undergraduate scholarship examination** for batch 2011 accommodated 21,806 examinees in 116 test centers nationwide.

The Institute began the second part of the two-part study on "Emigration of Science and Technology-Educated Filipinos (1998-2004)," profiling specifically OFWs who had S&T education or occupations working in other countries. The Tracer Study of DOST-Scholar Graduates was launched to track the scholar-graduates of the undergraduate scholarship programs being implemented by the Institute.

The Accelerated Science and Technology Human Resource Development (ASTHRD) Program paved the way for the establishment of the **National Science Consortium** composed of 10 member-universities to increase the production of technically competent MS and PhD graduates in the basic and applied sciences and mathematics.

Various curriculum enhancement programs

Several teacher training programs and seminars were introduced or intensified, such as the National Training Course on Teaching Introductory Physics that aims to contribute to the improvement of Physics and Science Education; the Capacity Building for Physics Teachers in Visayas and Mindanao; and the National Conference on Innovation in Philippine Education which brought together several notable speakers from various top learning institutions nationwide.

Other programs conducted were the **Mathematical Enhancements**, **Recreations** and **Innovations Toolkit for Teachers (MERIT for Teachers)**, the first of its kind to provide long-needed training for teachers in science high schools; the second

Mathematical Pedagogical Knowledge (MPK), and the Integrated Training in Digital Applications and Teaching Electronics, intended to update teachers on subjects touching on electronic devices, digital applications, the use of microcontrollers and electronics subjects in the science high school curriculum.

The Mobile IT Classrooms (MITC) continued to bring the benefits of ICT to elementary and high school students and teachers in far-flung areas, having been deployed in Siargao, Camarines Sur, Davao and Cebu. The fifth unit was converted into the Science Explorer, which managed to serve 320 students and even incurred strong support from legislators.

DOST-SEI stepped up its e-learning with the further development of affordable and high-quality **digitized modules** on science and mathematics for high school students. Preparatory activities were also done towards integrating **Tablet PCs** loaded with interactive and instructional materials for initial use of grade 1 pupils, to provide them with technology enhanced learning experiences that improve performance.

Achievements in International Competitions

Filipino students once again proved their capabilities to shine in international competitions as the local delegates to the International Math Olympiad (IMO) came home with prestigious honors, including the IMO Silver Medal bagged by Carmella Antoinette Lao of St. Jude Catholic School. Likewise mathematical excellence was displayed by our participants in the Australian Mathematics Competition (AMC).

The Philippines hosted for the first time the **World Robot Olympiad (WRO)** at the SMX Convention Center, Mall of Asia, during which the local team bagged Gold in both the Elementary and Junior High School Open Categories as well as other awards.

Consequently, the Youth Excellence in Science (YES) Award 2010 was another rich harvest for students as 272 achievers in international competitions received medals and citations from the DOST Secretary.

8 SCIENCE EDUCATION INSTITUTE

developing human resources in science and technology

steady stream of S&T scholars continues to benefit from the various scholarship programs administered by the Institute, signifying their growing relevance as avenues by which all deserving students nationwide, whether rich, middle class, or poor, can obtain scholarship privileges and pursue S&T education. Complementing these initiatives are advances in human resources studies aimed at ensuring that the country reaps the rewards of providing support to these scholar-beneficiaries.

Through these sustained efforts, we see that indeed, poverty and scarcity are not a hindrance to getting a good education, and that the government is intent on closing the gap in our S&T human resources needs. Solutions to our persistent and deepening "brain drain," however, lie in more than just the production of a pool of talents; equally intensive efforts must lie in creating the right domestic environment — with modern equipment, lucrative job offers and perks, and appreciative mindsets — that will allow them to flourish here. Only when both these levels match will we be able to fully meet the unique challenges of the 21st century world of work.

S&T Scholarship Programs

At the end of AY 2009-2010, DOST-SEI produced 1,215 graduates from its undergraduate scholarship programs. Of this number, 274 graduated with academic honors.

RA 7687. The Science & Technology Scholarship Act of 1994 supported the most number of scholars, producing 821 graduates in 2010, 123 of whom attained *cum laude* honors, 39 *magna cum laude*, and two (2) *summa cum laude*, while three (3) others were cited for academic distinctions and five (5) scholars completed their respective courses earlier than the prescribed period.

The **MERIT scholarship** program produced 119 graduates, 24 of whom completed their courses *cum laude*, 22 *magna cum laude*, two (2) *summa cum laude honors*, and one (1) honorable mention.

The **Junior Level Science Scholarship (JLSS)**, a program open to regular third-year students enrolled in S&T priority courses and who passed the qualifying examination, had a total of 33 graduates. Of these, 12 graduated cum laude, three (3) *magna cum laude* and one (1) *summa cum laude*. One scholar completed the course earlier than the prescribed period.

The Cooperative Pre-Service Education for Science and Mathematics Teachers (Project 8102 Ed.), which aims to develop Physics teachers for secondary schools, had nine (9) graduates with two (2) attaining *cum laude* honors.

Project 2004-01 Education, implemented at the University of San Carlos in Cebu produced 15 graduates with five (5) *cum laude* honorees.

The **Project GIFTS** for the Disadvantaged, open to qualified third year students enrolled in priority courses in S&T at DOST-SEI network institutions and CHED Centers of Excellence, produced 217 graduates with four (4) magna cum laude, 23 cum laude, one (1) with Academic Excellence and one (1) with Academic Distinction.

The Grants for Educational Assistance on Technology and Science Teaching Courses in Mindanao (GREAT-M) Project, which provides college scholarships to poor but deserving high school students in Muslim communities, produced one (1) graduate.

Special Science Scholarship Grant (SSSG). This grant, which provides full scholarship for one year with requisite conditions for continuation in the succeeding years, was awarded to Filipino students who have won gold, silver and bronze medals in highly prestigious international science and mathematics competitions. This mode of identifying scholars to the S&T scholarship programs is an alternative to passing the scholarship examinations administered nationwide each year. In 2010, 17 SSSG scholars were supported.

The graduate scholarship programs highlight the following achievements:

The Capacity Building Program in Science and Mathematics Education had five (5) graduates. The Accelerated Science and Technology Human Resource Development (ASTHRD) Program produced 190 graduates with two (2) summa cum laude and one (1) each for magna cum laude and cum laude. The Engineering Research and Development for Technology (ERDT) of the Consortium Universities had 36 graduates with one (1) cum laude.

Table 1 below, shows breakdown of graduates per scholarship program.

Program Implementation and Management Activities

The DOST-SEI tapped several experts in various fields of science and technology to develop four new sets of tests

Test Development for S&T Scholarship Examination.

that would be used during the annual administration of the DOST-SEI Undergraduate S&T Scholarship Examinations. These tests better assess the aptitude of the applicants/examinees in science and technology for the various DOST-

TABLE 1. NUMBER OF SCHOLAR-GRADUATES WITH HONORS								
HONORS	Undergraduate Scholarship Programs Graduate Scholarship Progra						larship Programs	
	RA 7687 (821)*	Merit (119)*	JLSS (33)*	Proj. 8102 Ed. (9)*	Proj. 2004-01 Ed. (15)*	GIFTS (217)*	ERDT (36)*	ASTHRD (190)*
Summa cum laude	2	2	1					2
Magna cum laude	39	22	3			4	1	1
Cum laude	123	24	12	2	5	23		1
Honorable mention		1						
Academic Excellence Award	1					1		
With academic distinction	2					1		
Completed earlier than the prescribed period	5		1					

^{*}Number of scholar-graduates for the program



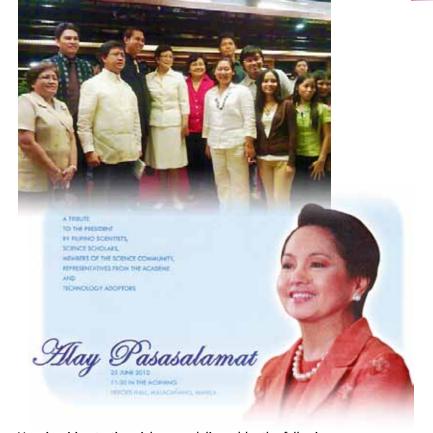
Dr. Milagos Ibe, Test Consultant, orients the examiners for the S&T Scholarship Examination on how to conduct the examination to ensure that the test is administered in a standard mode in all 116 test centers all over the country.

SEI scholarship programs. The new sets of tests were pilot tested in February 2010 and one test was used in the selection of the 2011 batch of scholars.

Orientation of new scholars and parents. In April 2010, DOST-SEI gathered a total of 680 qualifiers under RA 7687 and 226 MERIT, together with their parents for an orientation on the scholarship policies to ensure that all concerned are fully aware of the terms and conditions of the programs from which they were going to benefit. The orientation was conducted at the SEI office in NCR and the DOST Regional Offices in the provinces. At the end of the orientation session, the qualifiers and parents signed the scholarship agreement.

E-Account Opening at LBP. In May 2010, freshman scholars, enrolling in NCR schools, opened their e-accounts with the Land Bank of the Philippines (LBP) at TUP Manila, UP Diliman and at other LBP regional branches nationwide. The LBP issued the scholars specially-designed e-cards that work as an ATM card for their stipends and other financial assistance as well as an identification card. The cards bear the statement "I am a DOST-SEI scholar."

Alay Pasasalamat. DOST officials, Filipino scientists, science researchers, technology adopters and science scholars paid tribute to then out-going President Gloria Macapagal-Arroyo in an event dubbed as Alay Pasasalamat. Held on 25 June 2010 at Malacañang Palace, the occasion enabled the science community to express its gratitude to former President Arroyo's invaluable support for S&T in the country, particularly in the area of human resources development.



Very inspiring testimonials were delivered by the following S&T achievers: Dr. Lourdes J. Cruz, national scientist; Mr. Nestor G. Acala, PhD Mathematics scholar; Mr. Glenn Riced G. Blanco, MOVE UPS Beneficiary, PSHS scholar; Dr. Rowena Cristina L. Guevara, Chair, ERDT Consortium; and Ms. Maria Lydia P. Lomibao, entrepreneur and technology adopter.

In Touch With Excellence. DOST-SEI scholars who graduated with academic honors, obtained their MS/PhD degrees, or completed their courses earlier than the prescribed period were gathered during the annual recognition ceremonies dubbed "In Touch With Excellence" in July 2010. The top honorees delivered their messages of gratitude to the Institute and other DOST agencies for enabling them to pursue quality S&T education, and pledged to contribute their talents for the further development of S&T in the country. DOST Undersecretary Fortunato T. De la Peña, keynote speaker during the occasion, congratulated the honorees and challenged them to further hone their knowledge and skills to be of better service to the country.



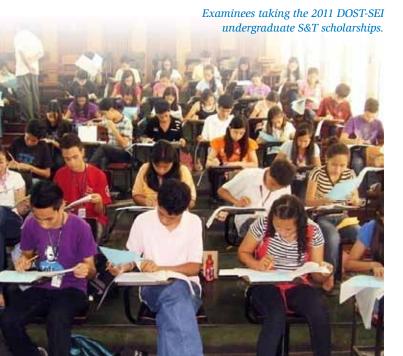
The Regional Scholarship Staff with the SEI Scholarship Staff try out the online application for the 2011 S&T Scholarship Examination during the Reorientation Meeting on the Management and Implementation of DOST-SEI Scholarship Programs. Inset: Dr. Ogena delivers a message for the participants of the meeting.

Meeting. SEI held a Reorientation Meeting with the Regional Scholarship Project Staff on 10-11 August 2010. The main objective of the meeting was to seek ways on how to enhance their management efficiency and effectiveness in the implementation of the DOST-SEI Scholarship Programs for the benefit of the scholars.

The meeting held at the Estancia Resort Hotel in Tagaytay City was participated in by 34 regional technical and scholarship project staff and 11 DOST-SEI officials and staff.

DOST-SEI Undergraduate S&T Scholarship Examination. Held on 21 November 2010, the DOST-SEI Undergraduate Scholarship Examination for batch 2011 accommodated 21,806 examinees in 116 test centers nationwide. Examinees from critical areas like Jolo, Sulu and Marawi City took the examination in Zamboanga City and Iligan City, and were provided with transportation and meal allowances.

Online application for examination was pilot-tested in 2010 while the program for e-processing of application forms and registry of examinees was deployed to the DOST Regional and Provincial Offices. DOST-SEI also created an LBP clearing account to facilitate payment of test fees by Merit applicants as well as payment of cash bond and refunds by scholars and scholar-graduates.



Both RA 7687 and Merit Scholarship Programs are available to talented students at the top 5% of their high school graduating classes and interested to pursue S&T careers. Qualifiers are required to enroll in priority science and technology courses at identified academic institutions in the country. They are entitled to a monthly stipend, subsidized tuition fees, book and MS/PE allowances, group health and accident insurance, and other privileges.

Creation of the National Science Consortium. A National Science Consortium (NSC) among the country's leading universities was created under the Accelerated Science and Technology Human Resource Development Program (ASTHRDP). The aim of the NSC is to establish a dynamic system of conducting collaborative academic and research activities that facilitate sharing of information and other resources to help increase the production of MS and PhD graduates in the basic and applied fields of science and mathematics.

The 10 NSC members are: Ateneo de Manila University (ADMU), Central Luzon State University (CLSU), Mindanao State University-Iligan Institute of Technology (MSU-IIT), University of the Philippines-Diliman (UPD), Los Banos (UPLB), Manila (UPM) and Visayas (UPV) campuses, De La Salle University (DLSU), University of Santo Tomas (UST) and Visayas State University (VSU).

State University-Iligan Institute of Technology (MSU-IIT), University of the Philippines-Diliman (UPD), Los Banos (UPLB), Manila (UPM) and Visayas (UPV) campuses, De La Salle University (DLSU), University of Santo Tomas (UST) and Visayas State University (VSU).

strengthening capabilities in science and technology education

long with advances in science and technology (S&T) come ever newer ways of teaching and learning its various fields. The Science Education Institute has been devoting as much investment into its variety of teacher training programs as into developing and implementing innovative education delivery systems and capacity building endeavours.

Much has certainly been accomplished in 2010 to further the end of making our S&T educators nationwide, particularly in many rural and depressed areas, better prepared to cope with an environment increasingly being characterized as faster, smarter and more sophisticated.

Specialized Training in Science and Mathematics

Mindanao Opportunities for Vitalized Education and Upgrading of Science (MOVE UPS) Year 3. Project MOVE UPS is a three-year program that aims to strengthen the capabilities of the 60 identified Muslim-dominated feeder schools of the Philippine Science High School-Central Mindanao Campus (PSHS-CMC) from the divisions of Maguindanao I, Maguinadanao II (Shariff Kabunsuan), Lanao del Norte, Lanao del Sur I-A, Lanao del Sur I-B, Lanao del Sur II-B, Lanao del Sur II-A, Lanao del Sur II-B, and Marawi City.

Specifically, the objective of the project is to provide a favorable environment and implement more relevant teaching approaches and strategies in Muslim-dominated schools, taking into consideration their unique culture, and thereby encouraging students to understand, appreciate and value the importance of science.

The project continued the implementation of its major activities in 2010. However, Teachers' Training was postponed due to the national elections held in May.

Science Camp

Science Camp, as one of the activities of the project, intends to provide a venue for scientific self-expression of pupils, giving them opportunity to gain new and deeper understanding of scientific concepts in an exciting, interesting manner bringing about scientific mind and social development. Held on 17-21 May 2010 at the Philippine Science High School-Southern Mindanao Campus (PSHS-CMC) in Davao City, this activity drew the participation of 120 pupils and 120 teachers from the 60 feeder elementary schools. The students and teachers expressed their excitement to learn as they involved themselves into parallel and plenary sessions and hands-on laboratory activities in line with the theme "Go for Pisay: Moving Up through Science, Mathematics and Technology."

Awarding of Additional Passers of PSHS-NCE

As the PSHS System administered the annual National Competitive Examination (NCE), three (3) students

from the MOVE UPS feeder schools qualified to the said examination. They were Glenn Riced G. Blanco of Salvador Central Elementary School, Lorenz Carl P. Flores of Nuro Upi Central Elementary School, and Charlene T. Sajonia of Kolambugan Central Elementary School. In recognition of their performance, they were awarded each with P10,000 cash, medal and certificate of recognition. Their respective schools likewise received the said cash award and certificate.

Distribution of Reference Books/Materials

To further increase the uptake of pupils to PSHS-Central Mindanao Campus, the project distributed books/reference materials to the 60 feeder schools. The reference materials will be useful to teachers and students in order to enhance teaching and learning process and broader understanding in science and mathematics. Moreover, these materials may also be used in the mentoring activity of feeder schools as they prepare their students in the next PSHS-NCE.

Principals' Conference

Aside from students and teachers of the feeder schools, project MOVE UPS also trained school principals and administrators through the conduct of Principals'/ Administrators' Conference on 19-21 October 2011, which resulted in the attendance of 57 school principals and 7 division supervisors. This activity aimed to enhance management and supervisory capability of principals and supervisors with focus on excellence in science education; enhance assessment and evaluation of potentials of administrators of feeder schools; and to come up with a plan/strategy to promote and sustain excellence in science education.



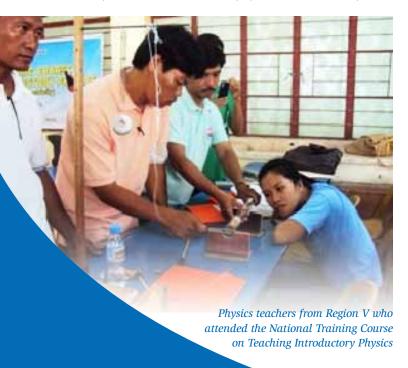


Writeshop for Standardization of MOVE UPS Aptitude Test
The MOVE UPS Aptitude Test is an examination developed by the project to gauge students' aptitude in science and mathematics. The writeshop was conducted in order to critique developed test items based on the result of item analysis of the Aptitude Tests in 2009 and 2010. A lecture was given by Dr. Milagros D. Ibe, Project Consultant, which emphasized the common errors/weaknesses in test item development. Also, difficulty and discrimination indices were introduced to guide the test item developers in the revision of test questions. As recommendation, however, test items must be constructed to measure the students' analytical thinking rather than their ability to memorize and recall.

This activity was held on 9-10 December 2010 at Gardens of Malasag Ecotourism Village, Cugman, Cagayan de Oro City with participation of test item developmers/experts from different schools and universities in Mindanao.

National Training Course on Teaching Introductory Physics. For the past three years, SEI has been funding this project that aims to contribute to the improvement of Physics and Science Education. Held on 12-16 April 2010 at the Sorsogon State College in Sorsogon City, the training program drew 35 participants from the schools in Sorsogon City and nearby Region 5 provinces.

The training focused on building improvised apparatus in teaching and active learning, with discussions and demonstrations on how these could be duplicated and used in their schools. This project, in addition to enhancing the competencies of science and physics teachers, is expected



to help address the needs of many schools for science apparatus that are often prohibitively expensive.

Chem Camp 2010. Held on 08-27 April 2010 at the Ateneo de Manila University (ADMU), Chem Camp gathered 80 participants comprising of incoming public and private high school senior students who have high aptitude in the sciences. The program provided them with a comprehensive view of the major fields of chemistry, which includes organic, inorganic, biochemistry, analytical and physical chemistry. Aside from experiments, short discussions on the chemical principles, group dynamics and games showcasing pure and applied concepts, film showing and poster-making activities were conducted.

Since 1985, the camp has been a vital means of increasing students' appreciation of chemistry through hands-on laboratory activities. It also helps develop their analytical skills and creativity, and encourages them to pursue science degrees in college. The project is implemented in collaboration with ADMU-Department of Chemistry.

Carlos P. Garcia High School Science and Engineering Career Forum. This event held on 16 July 2010 aimed to motivate the graduating students of Carlos P. Garcia High School to pursue studies in the demanding fields of science and engineering. In attendance were 188 students who had the chance to ask questions from invited speakers who have successfully built their careers in the areas of Biology, Engineering, Geography and Education.



Mathematical Enhancements, Recreations and Innovations Toolkit for Teachers (MERIT for Teachers). This specialized training presents innovative mathematics topics and teaching techniques far beyond the usual classroom models. It is intended for mathematics teachers in science high schools in Visayas and Mindanao, which are expected to have more intensive mathematics subjects than in ordinary high schools given their high percentage



of mathematically gifted students. MERIT is the first of its kind to provide this much-needed training for these teachers, especially those outside NCR.

The MERIT teacher training program was conducted at the DepEd ECOTECH Center, Cebu City on 24-30 October 2010. In attendance were 60 secondary mathematics teachers from S&T-oriented high schools, regional science high schools and PSHS in Visayas and Mindanao. SEI funded the training in collaboration with the Mathematical Society of the Philippines (MSP).

The special topics covered were: Power 2; Impossibility of Some Geometric Constructions; Division Algorithm of Polynomials and Finite Differences; Combinatorial Explorations; and Mathematical Investigation.

Lecturers included Ateneo de Manila University (ADMU) professors Dr. Evangeline Bautista, Mr.Allan Canonigo, Dr.Flordeliza F. Francisco, Dr. Ian June L. Garces, Dr.Job Nable, Dr.Eden Provido, Dr. Jumela F. Sarmiento, and Mr. Karl Mina, with Dr. Arlene Pascasio of De La Salle University (DLSU).

A Training Workshop to Develop Mathematical Pedagogical Knowledge (MPK). The Mathematical Pedagogical Knowledge (MPK) Training Workshop replicated the one conducted in May 2009, geared towards the implementation of the framework for Mathematics Teacher Education. Due to insistent demand from teachers who were unable to participate in this earlier training, a second session was conducted for four (4) consecutive Saturdays of November



2010. Forty (40) teachers from public and private schools participated, 10 from NCR and 10 each from three other regions.

The program aimed to improve the competencies of mathematics teachers in applying teaching approaches, learning theories, assessment principles and modalities specific to the contents of mathematics. The four-day training consisted of lectures, demonstrations, small group work, critiquing, discussions and lesson writing activities. It covered the four domains of MPK as described in the framework for Mathematics Teacher Education, at both the elementary and secondary levels, focusing on developing pre-algebra and algebra concepts described in the Philippine Mathematics Framework for Basic Education. The participants were required to produce four lesson plans demonstrating their MPK and a plan for conducting an echo seminar for all the mathematics teachers in their division.

SEI supported the project in collaboration with the Mathematics Teacher Educators (MATHTED).

Integrated Training in Digital Applications and Teaching Electronics (IT-DATE). Rapid advances in technology and the pervasive use of electronic devices and digital applications have made it necessary to include the use of microcontrollers and electronics subjects in the science high school curriculum to provide a stimulating environment for learning.

The IT-DATE program intends to update the knowledge of science high school teachers on these subjects. Since some of the concepts are very challenging and usually taught at the University level, these topics need innovative teaching-learning activities to maximize their impact in the curriculum. Twenty (20) teachers from selected Regional Science High Schools in Luzon and two (2) new PSHS regional campuses participated in the training conducted



last December 2010. Another session was set in March 2011 for Visayas-Mindanao. SEI funded this project to cover the expenses for personal services and other operating costs.

The topics covered basic electronics, digital electronics programming and embedded systems, including digital design. The selected Science High Schools were provided with essential courseware, equipment and other related facilities to give participants exposure to basic concepts in today's technological marvels, and the ability to perform various experiments for their science classes or as basis for further investigatory projects.

Capacity Building and Developing Global Competitiveness in Science Education. This SEI initiative aims to enhance the competence of teachers in meeting new and challenging demands of their profession, through teacher training programs, upgrading of faculty of SEI network institutions in all levels, and tie-ups with reputable international educational institutions.

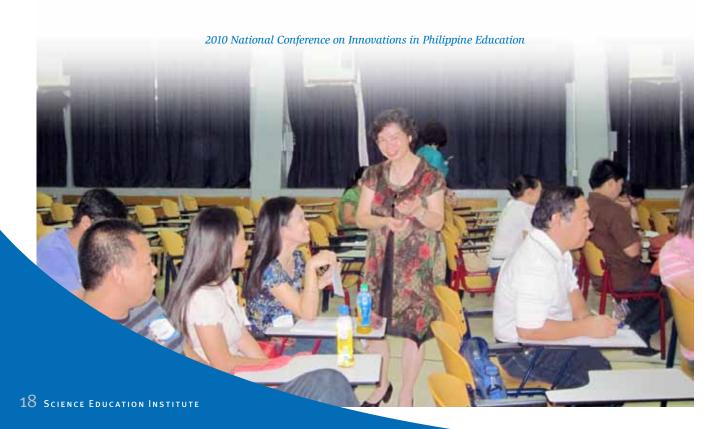
2010 National Conference on Innovations in Philippine Education

As part of this project, SEI conducted a National Conference with the theme "Innovations in Philippine Education" held at SEAMEOINNOTECH on 11-12 November 2010. The event was attended by 350 participants, twice more than the initial target, composed of teachers in science, mathematics, language, and ICT at all levels; school administrators, researchers, curriculum and instructional materials development specialists; officials and representatives from DOST-SEI, DepEd, CHED and other educational institutions. Educators

managed to present and share effective and innovative teaching strategies and practices that can pave the way towards creating a 21st century learning environment.

Resource speakers for the conference were composed of the following:

the following.				
Keynote Speaker	Dr. Nancy Law Head, Division of Information and Technology Studies and Director, Center for Information Technology in Education University of Hong Kong			
Innovations in Science Education	Dr. Maria Victoria Bernido Principal, Research Center for Theoretical Physics Central Visayan Institute Foundation			
Innovations in Mathematics Education	Dr. Catherine Vistro-Yu Professor, Mathematics Department Ateneo de Manila University			
Innovations in Language Teaching	Dr. Dina Ocampo Dean, College of Education University of the Philippines, Diliman			
Innovations in ICT for Education	Assoc. Prof. Ninia Inoncillo-Calaca Director, Educational Technology Center University of Santo Tomas			
Innovations in Teacher Education	Prof. Rita Ruscoe Professor, Social Science Department Philippine Normal University			
Innovations in Graduate Education	Dr. Editha Sillorequez Vice President for Academic Affairs West Visayas State University			
Innovations in School Management	Dr. Bee Ching Ong President, Chiang Kai Shek College			



Moreover, 14 papers on innovative practices in education from different universities and colleges were presented. SEI sponsored the Best Innovation Research Paper Award and granted an excellence medallion, certificate of recognition and P10,000.00 to Dr. Nelia Prieto of St. Joseph's College of Quezon City for her paper entitled *School Climate Innovativeness and Organizational Effectiveness among Catholic Teacher Education Institutions*.

Dr. Ramon Bacani, Director of SEAMEO INNOTECH, graced the closing program.

Capacity Building for Physics Teachers in the Visayas and Mindanao

This training program is designed to update Physics teachers on recent trends, issues and new concepts of pedagogy in physics education, and encourage them to broaden their scope of physics by engaging in research studies.

The lecture series was conducted on 15-19 March 2010 by Dr. Edgar DG. Corpus of University of Texas-Pan American and Dr. Jose Perico Esguerra of National Institute of Physics of UP Diliman. In attendance were 60 participants, all of whom are Physics teachers enrolled in the MS and PhD Programs in West Visayas State University and University of San Carlos. The program was conducted under the Accelerated Science and Technology Human Resource Development Program (ASTHRDP).

Strengthening the Capacity of Science and Mathematics Teachers on Disaster Risk Reduction and Management. The project aims to strengthen capability of science and mathematics teachers to respond timely and effectively to natural disasters and help students cope with any that should occur.

The DOST Special Order No. 709, Series of 2010 created the National Steering Committee, Regional Training Coordinators, Level 2 Training Support Staff and Secretariat/Technical Staff for the implementation of the project. The first National Steering Committee (NSC) Meeting was held on 09 November 2010 at the Serye Restaurant in Quezon City. The NSC recommended the inclusion of the Office of Civil Defense (OCD) and the Mines and Geosciences Bureau of the Department of Environment and Natural Resources (DENR-MGB) in the membership of the NSC, to train trainers rather than elementary and secondary school teachers and the composition of the trainers who should participate in the training program.

Training has been scheduled in April and May 2011 at the following training centers: Central Luzon State University (CLSU); Mariano Marcos State University (MMSU); Bicol

University (BU); and Visayas State University (VSU).

Dr. Carina Lao and Ms. Mylene Villegas, both Chief of Training Divisions of DOST-PAGASA and DOST-PHIVOLCS, respectively, identified key persons to attend in the workshop that would identify the topics to be included in the Training Program. The workshop was held on 16 December 2010 at the Amihan Conference Room, PAGASA Main Building, Quezon City and was attended by experts from DOST-PAGASA, DOST-PHIVOLCS and DENR-MGB. Upon their recommendation, the current resources for training programs were downloaded from the internet: Disaster Risk Reduction Resource Manual (by DepEd and UNICEF) and Integrating Disaster Risk Reduction into School Curriculum (by Regional Consultative Committee on Disaster Management through the Asian Disaster Preparedness Center).

Innovative Delivery Programs in Science and Mathematics

Mobile IT Classrooms (MITC). These custom-made airconditioned buses continue to bring the benefits of ICT to elementary and high school students and teachers in far-flung areas, to minimize the digital divide and promote science awareness and literacy through handson activities. Each unit has 32 tiered seats, 17 computer laptops, LCD projector with screen, TV monitors, public address system, courseware and VHS tapes in science and mathematics, worktables and stockroom.

In 2010, the MITC units were each deployed in Siargao, Camarines Sur, Davao, and Cebu. The fifth unit was converted to Science Explorer, which is now managed by the Science and Technology Manpower Education, Research and Promotions Division (STMERPD).



Development of Interactive Courseware in Science and Mathematics for Secondary Schools (First Year Level).

This project aims to develop cost-effective and highquality e-learning modules and enable secondary level students to be more competitive in the area of science and mathematics through the optimal use of ICT.

In 2010, a total of 133 modules on first year level lessons -73 in science and 60 in mathematics - were digitized and produced. The process involved GUI Design, Animation, Sound Production, Interactivity Development, and Quality Assurance. Consultants and experts in science and mathematics teaching reviewed and evaluated the digitized modules.

The intensive simulations, animated graphics and images with synchronized voice-overs in these new modules have given the students an immersive, fascinating and enjoyable way to learn about scientific phenomena to further their learning skills and interests. Assessment questions are posted at the end of every module to evaluate students' lesson comprehension.

These modules also empower teachers to more effectively meet the challenges of education in today's increasingly technology-infused learning, facilitating communication with their students and even with experts beyond the classroom via distance-learning.



Technology Package of Student Learning Empowerment.

In 2010, preparatory activities were done towards implementing the proposal for a Technology Package consisting of a tablet PC loaded with e-books, statistical package, and interactive and instructional learning materials. This will

provide students with technology-enhanced, real-time and on-demand learning experiences that could lessen student dropout and improve performance.

In addition to SEI, other agencies involved in the project include DOST, Advanced Science and Technology Institute (ASTI), the Department of Education, and Teacher Education Institutions such as the Philippine Normal University (PNU) and UP College of Education (UPEd).



In 2010, the agencies conducted one advisory meeting and two staff meetings to create the project's framework and development process.

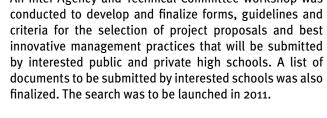
Search for Innovative Practices in Managing Large **Classes.** This project is a nationwide search for innovative practices in managing large classes that result to effective teaching and learning science and mathematics. The search is open to all public and private high schools with large class sizes of 51 to 70 students and extra large classes with 71 students and above. The project duration will be for two school years (2010-2011 and 2011-2012).

Specifically, the search seeks to inspire science and mathematics teachers in public and private secondary schools to apply innovative practices and collaborate with other schools and communities for resources that help cope with large class sizes.

One Steering Committee and one Inter-Agency Committee were created to set the directions of the project. Three Steering Committee meetings and one Inter-Agency Committee meeting were conducted to discuss the target activities and the schedule of implementation.



An Inter-Agency and Technical Committee workshop was finalized. The search was to be launched in 2011.



Design and Development of Statistical Software Package.

Research and development has always been considered as a contributory factor in the development of a nation and it plays a significant role in global competitiveness. This implies that statistical tool is important for the conduct of R&D activities by researchers. Mainly, the objective of the project is to design, develop and produce software that will simplify statistical computations and tests for teachers, high school and graduate students in order to encourage development projects through easier conduct of researches, theses and dissertations. The software will be accompanied by an e-book on statistical tools and tests and an electronic user manual with interactive tutorial.

Hence, this statistical software package is envisioned to be a comprehensive tool that would assist researchers not only during the processing of data but also prior to data collection. The project will be divided into three (3) modules, with each module deliverable every four (4) months. These modules are classified as Basic, Intermediate and Advanced.

To start the development of statistical software package, the project conducted meetings which discussed the features and specifications of the statistical software, particularly the most common statistical tools. Various statistical package websites were also identified as reference but the need to study and evaluate these existing packages was recommended.



Moreover, workshops for writers and experts were organized in order to develop specific contents and features of the statistical software package, such as the different statistical methods and analysis, the core features of the software package, and the system requirements.

S&T Human Resources Studies

S&T Skills Migration Study - Part II, OFWs. This is the second part of the two-part study on "Emigration of Science and Technology-Educated Filipinos (1998-2004)." While the first part, completed and published in 2008, explored the general profile of Filipinos who have permanently migrated to other countries, the second part deals with temporary migration among Filipinos, specifically Overseas Foreign Workers (OFWs) who had occupations or jobs classified as S&T by the International Labor Organization (ILO). It analyzes secondary data on the deployment of OFWs from the Philippine Overseas Employment Administration (POEA) covering the period 1998-2009.

Begun in April 2010, this DOST-SEI initiative aims to provide baseline information on the rate of outflow of S&T human resources to foreign countries based on sex, specific occupations, average income, major regional destinations, and top host countries. This will allow policymakers and researchers, members of the academe and the industry sector to better understand the factors that contribute to the country's gap in the supply of S&T human resources, or the so-called "brain drain."

Occupations of OFWs were reclassified using the International Standard Classification of Occupations (ISCO), as stated in the Canberra Manual that was prepared by the Organization for Economic Cooperation and Development (OECD).

Based on the Manual, major classifications of S&T occupations are: (1) Physicists, Chemists and Related Professionals; (2) Mathematicians, Statisticians and Related Professionals; (3) Computing Professionals; (4) Engineers and Related Professionals; (5) Life Science Professionals; (6) Nursing and Midwifery Professionals; and (7) Health Professionals (except Nursing). Data was processed and analyzed using the Statistical Package for Social Sciences (SPSS). Initial results are presented in Figures 1 and 2.

Figure 1 shows a 148% increase in the outflow of Filipino S&T workers, from 9,877 in 1998 to 24,502 in 2009. There were more female S&T migrants than male ones across the years, particularly in 2001, wherein almost three quarters of S&T

workers who left the country to work abroad were women. Over the 12-year period, the ratio of female to male S&T OFWs was highest in 2000-2005 in which at least two females for every male left the country to work abroad.

Figure 2 displays the percentage distribution of OFWs by specific S&T occupations. The proportion of nursing and midwifery professionals leaving the country is consistently the highest across the years, compared with those of the other core S&T occupations, particularly in 2001 in which more than half of those who left the country – 53% – belonged to the group, followed by the engineers, related professionals, as well as health professionals.

Tracer Study of DOST-Scholar Graduates: An Initial Report. This study aims to track the DOST-SEI scholar-graduates via a web-based system for online and off-line capture of their tracer information. This will help the Institute determine their present situations and career movements after college graduation, and whether or not they have contributed to the country's development efforts through employment in either the government or private industries, or through self-employment, in their areas of specialization.

This study is being done in three phases: 1) Development of Tools for Data Gathering, 2) Building-Up of the Scholar-Graduates Database, and 3) Data Analysis and Preparation of Initial Report. For the first two phases, the Tracking Actual Career Experience Report (TRACER) form developed by the S&T Scholarship Division (STSD), which is being accomplished by every scholar who requests for clearance, was used as basis for the information that will constitute the data to be processed.

Aside from the existing database at STSD, a web-based information system, the e-Clearance Application System (ECAS), was developed to facilitate data collection and encoding. Aside from facilitating collection of information, a value-added feature of ECAS is that graduate-scholars may apply for clearance and view the status of their request online.

Among the research problems to be answered by the study are:

- Where are the scholar-graduates now?
- In which industry sectors are the scholar-graduates mostly employed?
- Are there differences between sexes in terms of employability and industry sector participation?
- What percent of scholar-graduates is involved in R&D?

Future plans include deployment of ECAS in the internet, data processing and analysis, and preparation of technical report.

Fig 1. Number of OFWs with S&T Occupation by Year and Sex

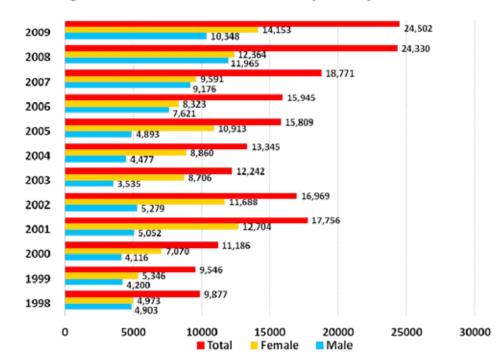
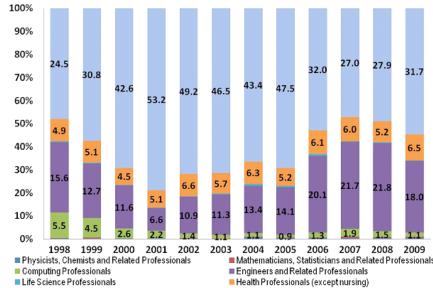


Fig 2. Percent of OFWs by Specific S&T Occupation by Year



■ Life Science Professionals ■ Health Professio ■ Nursing and Midwifery Professionals S&T Database Development Project.

this project, existing databases on researches and publications; S&T personnel, consultants and institutions; and other S&T-related information were updated and maintained to ensure the accuracy of data and help policymakers improve the quality and efficiency of their decision making. In 2010, two new databases were created: (1) S&T Young Achievers' Database, which profiles the young achievers and recipients of the Youth Excellence in Science (YES); and (2) S&T Human Resource Statistics Database which contains S&T human resource indicators such as number of enrollees, graduates in Philippine universities and number and profile of national scientists and academicians.

Aside from the databases, information systems were also created, such as the

Library Information System for the control and management of S&T resources like books, journals and other publications, and the Science Education Experts Information System, which manages information on consultants and experts in the field of science and mathematics education.

promoting science and technology culture

liminating social barriers to excellence in education will open up more opportunities for high-performing students to get involved in science and eventually pursue scientific careers. Conscious that tomorrow's societies will increasingly be science-based, the Institute continues to develop a culture consisting of people both pushing the frontiers in science and taking a positive attitude toward science as citizens. Creating this kind of culture – characterized by a high level of S&T education, knowledge creation, entrepreneurial activity and industrialization to benefit society – continues to be a daunting task but only by doing so will we create a science-enlightened and empowered citizenry, and achieve an elevated level of national development.

S&T Competitions and Promotions

Science Explorer. One of the bus units of the Mobile IT Classrooms was converted in 2010 into a mobile interactive learning facility loaded with audio-visual and laboratory equipment, interactive exhibits, and various learning materials that facilitate learning for students. It brings to students and teachers of under-equipped schools the benefits of fun and easy hands-on science experiments.



In preparation for its inaugural road trip, module writing sessions on topics such as Space Science, Creativity, Biotechnology and Robotics were conducted in September 2010. The Institute partnered with other agencies including DOST-Technology Application and Promotion Institute (TAPI), Philippine Foundation for Science and Technology (PFST) and the DOST-Science and Technology Information Institute (STII) for this activity.

The Science Explorer was launched on 4 October 2010 at the Opening of the 2010 World Space Week Celebration at the General T. De Leon National High School, Valenzuela City. Topics presented were Space Science modules on Rockets, Eclipse, Telescopes and Rotation and Revolution of the Earth and the Moon. The event was widely covered by the media and was done in cooperation with the Valenzuela City Division of the Department of Education under the leadership of Superintendent Dr. Flordeliza Mayari.

The second Science Explorer Road Trip was conducted at the Batasan National High School in Quezon City, and featured Science and Creativity, a take from the Invent School Program of TAPI. The project was well received by the students and was featured by Channel News Asia (CNN Asia) in one of their programs.

Upon the invitation of Agham Representative Angelo Palmones, the Science Explorer conducted its third Road Trip at the House of Representatives. SEI developed a new module on Biotechnology and other modules on Robotics for Kids and Space Science. Students of five schools around the vicinity of the Batasan Complex were invited to participate: Batasan National High School, Justice Cecilia Muñoz Palma National High School, Commonwealth Elementary School and President Corazon Aquino Elementary School, and The Nursery Class of Congress.

A total of 320 students were serviced by the Science Explorer from October to December 2010. Legislators expressed their strong support for the project, while teachers and school officials expressed their intention to avail its services in the future.

2010 Science Camp. The overall objective of the program is to increase the pool of S&T human resources by nurturing science-inclined and talented high school students, stressing the rewards of pursuing advanced scientific/technical degrees and careers, and encouraging pre-college research opportunities to produce more research papers that can be published in science journals.

The Science Camp was conducted from 23-30 May 2010 with the theme "Celebrating the International Year of Biodiversity: Learning About Coastal and Marine Environment." It featured highly interactive, laboratory-based activities tailored to students with interest in Biology. Participants included 42 incoming junior or senior high school students showing exceptional academic achievement and genuine interest in science; 14 biology teachers; and those that have planned or ongoing research studies. The program was held in cooperation with the UP Institute of Biology headed by Camp Director Dr. Zubaida Basiao.

The sole sub-camp on Biology was held on 24-27 May 2010 at the UP Institute of Biology in Diliman, Quezon City, and featured plenary sessions, lectures, laboratory experiments and a variety of other activities. The major

topics were: Introduction to Microscopy, Introduction to Animal Physiology, Introduction to Genetics, Introduction to the Scientific Method, Introduction to Developmental Biology, Introduction to Microbiology and Introduction to Plant Physiology. Students teamed up with experts/scientists throughout the Camp and were divided into three small groups for better learning. The participants were also treated to a night activity on Astronomy and star gazing at the DOST-PAGASA's Planetarium in UP Diliman.

The field camp was conducted at the UP Marine Science Institute (MSI) Laboratory in Bolinao, Pangasinan on 28-29 May 2010 led by Field Camp Director Dr. Aleta Yniguez. The activities and lectures focused on: GPS Navigation, Waves and Tides, Water Sampling-CTD and Plankton, Plankton Enumeration-Microscopy, Snorkeling 101, Field Trips to Hatchery, Seagrass and Reef Area, and Coastal Clean-up. Closing rites were held on 30 May 2010 at the MSI Laboratory.



Special Training for Talented Students in Mathematics.

This training, implemented in partnership with the Mathematical Society of the Philippines (MSP), was conducted at the University of the Philippines, Diliman and Ateneo De Manila University, Quezon City from April to June 2010, with participants comprising of 20 students who excel in mathematics and coming from selected public secondary schools. The said training was conducted in four (4) phases covering concepts in higher mathematics, problem solving techniques, and orientation on IMO-type of questions.

Philippine Participation to the International Mathematics Olympiad (IMO). 2010 marked a major milestone for the country's participation in the IMO as Carmella Antoinette Lao of St. Jude Catholic School bagged the IMO Silver Medal, the second to be won by another Filipino after 21 years. She is the first Filipina to win this prestigious medal following the Bronze Medal she took home from the 2009 IMO.



Her teammates, Zheng Rong Wu of Zamboanga Chong Hua High School and Henry Jefferson Morco of Chang Kai Shek College, also won Honorable Mention citations in the competition held in Astana, Kazakhstan on 2-15 July 2010. The three students were selected by the Mathematical Society of the Philippines (MSP), a partner of SEI in nurturing math talents, to comprise the Philippine delegation headed by Team Leader Dr. Ian Garces of Ateneo de Manila University and Deputy Team Leader Mr. Glen Ong of Oracle.

The IMO is the largest, the most prestigious and the most difficult mathematics competition among secondary students in the world. SEI jointly sponsored the travel expenses of the Philippine participation together with the Mathematical Society of the Philippines.



2010 Australian Mathematics Competition (AMC). Filipino students once again performed well in this annual international correspondence-based mathematics competition. On 5 August 2010, a total of 2,837 students from Grade 3 to second year college nationwide took the examination simultaneous with students from other participating countries, namely: Australia, Bulgaria, China, Hong Kong, Malaysia, New Zealand, Singapore, South Korea, Taiwan and Thailand.

Based on the results released in October 2010, four local students were named among the 2010 AMC medalists:

- 1. Nathaniel Ryan Ang Xavier High School
- 2. Seanne Ng Saint Jude Catholic School
- 3. Mikaela Angelina Uy Saint Jude Catholic School
- 4. Carmela Antoinette Lao Saint Jude Catholic School

Recipients of the AMC Prize Award, given to those who made it to the top one percent of contestants were:

1. Lorems Pedeglorio - Butuan City SPED Center

- 2. Christian Philip Gelera UP Integrated School
- 3. Miguel Lorenzo Ildesa PAREF Westbridge School, Inc.
- 4. Farrell Eldrian Wu MGC New Life Christian
- 5. Adrian Reginald Sy Saint Jude Catholic School

Academy, Inc.

- 6. Kaye Janelle Yao Grace Christian College
- 7. Samuel Christian Ong UNO High School

Fifty (50) other students garnered High Distinction certificates for being in the top two percent of examinees in their year level.

Administered by the non-profit Australian Mathematics Trust (AMT), the AMC was held in cooperation with the Mathematics Trainers' Guild (MTG) of the Philippines, DOST-SEI, and the DOST Regional Offices. The awarding ceremony, held at Summit Ridge, Tagaytay City on 22 October 2010, was led by AMT Executive Director Dr. Peter Taylor; DOST Assistant Secretary Robert Dizon; SEI Director Dr. Ester B. Ogena, and MTG-Philippines President Dr. Simon Chua.

2010 World Robot Olympiad (WRO) in Manila. The Philippines hosted for the first time the WRO on 5-7 November 2010 at the SMX Convention Center, Mall of Asia, Pasay City. Conducted in partnership with Felta Multi-Media Inc., the event bannered the theme "Robots Promote Tourism."



The Philippines was among the 22 countries from Asia, Australia, Europe, United Arabs Emirate and South Africa that participated in the 2010 WRO. As the host country, the Philippines, through the DOST-SEI, shouldered the expenses for the accommodation (hotel and meals) of the participants, venue and technical and support services, while the private sector provided for all other expenses.

The National Advisory Committee, Technical Working Group (TWG) and different working committees provided the technical support in the planning and execution of the 2010 WRO.

The 2010 WRO comprised Regular and Open Categories, with participants coming from Elementary, Junior High School, and Senior High School levels. The Philippine Team won the following awards:

Open Category - Elementary				
Gold Medal (1st Place)	Grace Christian College			
Coach	Melanie I. Tizon			
Students' Names	Josh Roshown R. Cheng Sean Patrick C. Lee Shaina Y. Santiago			
Certificate of Excellence Award (6th Place)	Spurgeon School			
Coach	Jonel R. Rubio			
Students' Names	Moses Joi A. Floresta John Faust M. Turla Gabriel M. Cortez			
Open Category — JUNIOR High School				
Gold Medal (1st Place)	Dr. Yanga's Colleges, Inc.			
Coach	Mr. Beryl Jhan Cruz			
Students' Names	Ma. Nerissa Nicolas Adiel Sam De Jesus Alexandra Mae Guevarra			
Bronze Medal (3rd Place)	International School Manila			
Coach	Ivan Ramos / Alfredo Ayala			
Students' Names	Christian Ayala Lucas Ramos			
Certificate of Excellence Award (4th Place)	Grace Christian College			
Coach	Marlita C. Vitto			
Students' Names	Janelle Natalie C. Laohoo Kyle David A. Dee Edrich Hans C. Chua			



Regular Category - Elementary				
Silver Medal (2nd Place)	West Rembo Elementary School			
Coach	Richard I. Abines			
Students' Names	Jan Paolo E. Flores Vincent Elizer D. Cabillon Princess Kate A. Ramos			
Certificate of Excellence Award (5th Place)	Tibagan High School			
Coach	Rico M. Gatbonton			
Students' Names	Austin Khel N. Pajanostan Chritian C. Jiminea John Aldrin B. Santiago			
Regular Category - JUNIOR High School				
Certificate of Excellence Award (7th Place)	Benigno Aguino High School			
Coach	Edwin H. Engana			
Coach Students' Names	Edwin H. Engana Mark Erwin M. Papica Kenzo G. Bartolome Rodney M. Santos			
	Mark Erwin M. Papica Kenzo G. Bartolome			
Students' Names	Mark Erwin M. Papica Kenzo G. Bartolome Rodney M. Santos			

Philippine Robotics Olympiad (PRO). Preparatory to the country's participation as host of the World Robot Olympiad in November 2010, the 9th PRO held a dry-run at the PSHS Quezon City on 7 August 2010, while the preliminary and final judging were conducted on 8 and 10 September 2010, respectively, at the SM North EDSA in Quezon City.

Under the overall theme "Robots Promote Tourism," this S&T event aims to challenge the intellectual and critical thinking skills of elementary and high school students. The challenge for the elementary category was "Tour of the Philippines" wherein the robot was required to trace a line from the starting point and complete the circuit in the shortest time possible. The contest for the high school participants was "Tumbang Preso" wherein the robot was required to trace



the tracked line from the starting point, knock down a bottle, and secure and bring along the bottle to the finish line. For the open category, both elementary and high school levels followed the theme of promoting tourism.

In the preliminary judging, there were 38 teams from the elementary and 67 teams from high school level. In the final judging, these were reduced to 26 teams for elementary and 31 teams for the high school levels, while the Open Category had 6 teams for elementary and 14 teams for high school.

The following winners qualified to participate in the 2010 World Robot Olympiad:

REGULAR CATEGORY	OPEN CATEGORY	
Elementary Level	Elementary Level	
1st - Nemesio Yabut Elem. School	1st — Grace Christian College	
2nd — West Rembo Elem. School	2nd — Dr. Yanga's College	
3rd - Dela Salle Lipa Integrated School	3rd — Spurgeon School Foundation, Inc.	
4th - Tibagan Elem. School	4th — First Asia Inst. of Technology & Humanities (FAITH)	
High School Level	High School Level	
1st — Pitogo High School	1st – Dr. Yanga's College	
2nd — Benigno S. Aquino High School	2nd — PSHS — EVC - Leyte	
3rd - Makati Science High School	3rd — International School Manila	
4th _ Statefields School Inc.	4th - Grace Christian College	

Technical Training for Philippine Robotics Team. A technical training was conducted from 9 October to 4 November 2010 at the PSHS-Diliman Campus to provide

the PRO qualifiers an opportunity to be trained by the robotics experts of different institutions and organizations and thereby increase their chances of winning awards for the country. This was implemented by SEI in cooperation with FELTA Multi-Media Inc.

Eight of the 16 qualifying schools participated in the Robotics Training, each represented by three students and one coach: De La Salle University-Lipa City, Makati Science High School, Pitogo High School-Makati City, West Rembo Elementary School-Makati City, Tibagan Elementary School-Makati City, Benigno Aquino High School-Makati City, Nemesio Yabut Elementary School-Makati City and Statefields School-Cavite.

Four of these eight schools eventually garnered awards in the Regular category of the World Robot Olympiad.

Tagisang Robotics: Design, Build and Play Competition (TRC). This pioneering high school robotics competition aims to promote robotics through a varsity game originally designed and based on soccer or football but using a spherical rattan ball called "milon" and "pakawan." TRC aims to raise the interest of students in science, engineering/technology, mathematics, and ICT through hands-on experience and investigation; instill the value of teamwork; help develop students' logical and systematic thinking skills; widen their views on the application of S&T; and encourage them to be future scientists, engineers and inventors.

Currently being implemented by SEI, teams from the PSHS campuses, S&T-oriented high schools, and other public and private science high schools will be invited to the competition that will be held in 2011. In preparation for

this, a series of technical meetings were held between robotics experts and members of the National Organizing Committee regarding specifications of the controllers and other requirements. A writeshop was also conducted for the development of the Manual for the TRC game prior to the R&D component of the project.

Towards the end of 2010, a Memorandum of Agreement was signed between SEI and University of the Philippines-Electrical and Electronics Engineering Institute (UPEEEI) Research and Development Foundation to develop and fabricate six mobile robots including the playing field for the TRC. UPEEEI has already started the R&D phase to be completed in March 2011.

Philippine Space Education Program. As the UNESCO designated lead institution in the promotion of space education awareness in the country, and in accordance with SEI's mandate to promote S&T culture among the youth, the Institute commemorated in 2010 its 7th year in implementing various space education activities for students and teachers at the regional and national levels.

2010 World Space Week Celebration. SEI conducted the opening ceremonies of the 2010 World Space Week (WSW) celebration in Metro Manila in October, coinciding with the launch of the Science Explorer at Gen. T. De Leon High School, Valenzuela City. Students experienced astronomy inside DOST-PAGASA's mobile planetarium and space interactive exhibits of the Philippine Science Centrum within the premises of the host school.

On 5 October, high school students from NCR, Regions 4A, 5, 6, 7 and 8 participated in the National Water Rocket Competition. Team members from the Asian Development Foundation College of Tacloban City won first prize and were awarded Certificates and gift bags from Kraft Asia.

A morning session entitled, "Lecture on Astronomy and Astrophysics for Teachers" was also held for the advisers/coaches of participating students. Dr. Perico Esguerra of UP NIP and Mr. Mario Raymundo of DOST-PAGASA were the resource persons.

On 8 October, two simultaneous activities were conducted. The first was an On-the-Spot Poster Making Contest for the elementary level, won by Athena Dominique of Grace Christian College, Charles Madronero of Upper Bicutan Elementary School and Vanessa Shain Baral of Laguna Bel Air Elementary School. The second activity was a Lecture Series on Astronomy attended by students of selected high schools in Metro Manila and Rizal province.

These activities, held at the Philippine Science Centrum and Riverbank Center, Marikina City, were all made possible with the cooperation of the Philippine Foundation for Science and Technology and PAGASA-DOST.

Participation to APRSAF Water Rocket Event and Poster Making Contest. The Philippines participated in the Asia Pacific Regional Space Agency Forum (APRSAF) Water Rocket Event on 20-21 November 2010 in Melbourne, Australia. The Philippine Team was composed of Leader Vryan Palma (UP), Instructor Elmer Graza (PFST), and students Edward Louie Chua and Julius Dacoycoy of ADFC, Tacloban City.

The Philippines also participated in the APRSAF Poster Contest, submitting as entries the three winning posters in the 2010 WSW On-the-Spot Poster Making Contest.

UNESCO-SEI Space Education Project

In February 2010, UNESCO sponsored a follow-up space education project in cooperation with the Agency, following the first project implemented in October 2004. The various activities were held in Cebu, Iloilo and Manila from 15-19 February 2010.

Space Education Workshops. Two Space Education Workshops were held in Cebu and Iloilo aimed at promoting space education awareness and on-going programs among the students and teachers. The first Space Education Workshop, held at the University of San Carlos (USC) in Cebu City on 15 February 2010, comprised two sessions attended by 92 high school students and 17 science teachers from the various public and private high schools in the province of Cebu; and 155 college students and instructors from



various tertiary institutions in the province. It was organized by USC and the Department of Science and Technology (DOST) Regional Office 7 in cooperation with SEI-DOST.

Ms. Yolanda Berenguer (UNESCO) gave a talk on *Space Education*; Mr. Tetsuo Hiraiwa (JAXA) talked on the *Principles of Rocket Science*; Mr. Christopher

Go (USC) shared his vast experiences as an amateur astronomer and his internationally recognized discovery of Red Spot Junior in Jupiter; Mr. Tetsuo Hiraiwa (JAXA) talked on Rocket Science for *University Students*; Ms. Valerie Casasanto (NASA) lectured on *Microgravity*; Ms. Axelle Cartier (Leiden Law School) gave an *Introduction to Space Law*.

The second Space Education Workshop was held at the West Visayas State University (WVSU) on 19 February 2010. There were 80 high school students and 20 science teachers from the various public and private high schools in Iloilo during the morning session, while 66 undergraduate and graduate students and 10 faculty members of WVSU attended the afternoon session. This was organized by WSVU in cooperation with SEI.

The main highlight in both workshops was the Water Rocket Launching Demonstration using assembled PET water rockets provided by the Japan Space Exploration Agency (JAXA), which also donated launchers and air pumps to each participating school. JAXA also provided Water Rocket Manuals DVDs and other educational materials to the participants. Ms. Takemi Chiku of JAXA and Ms. Angelli Cortez of SEI facilitated the activity.

Space Information Meeting with University Deans. Held at the Astoria Plaza Hotel, Pasig City on 17 February 2010, the meeting was presided by SEI Director Dr. Ester B. Ogena and UNESCO Space Education Programme Coordinator Ms. Yolanda Berenguer. Space experts from various institutions abroad presented their ongoing programs on the various space disciplines at their respective Institutions/Universities:



- 1. Ms. Valerie Casasanto, University of Maryland and NASA Goddard Space Flight Center (USA)
- 2. Ms. Axelle Cartier (Attorney), International Institute of Air and Space Law, Leiden Law School (Netherlands)
- 3. Mr. Michel Chauvin, Institute Superieur de l' Aeronautique et de l'Espace (France)
- 4. Dr. Roger Ferlet, Institut d' Astrophsique de Paris
- 5. Ms. Takemi Chiku, Japan Space Exploration Agency

Deans and Representatives from UP Diliman, UST, FEU, CLSU-Nueva Ecija, ADFC-Tacloban City, and WMSU-Zamboanga City participated in the meeting, which aimed at establishing cooperation among the universities.

Other Space Cooperation Activities. In coordination with DOST-PAGASA, SEI organized lecture forums for Dr. M.B. N. Thisj Kowenhooven, representative of the International Astronomical Union (IAU) in December 2010. The following topics were covered: Lecture on Astronomy for Elementary Pupils at the Science Explorer during the Science Exhibit at the House of Representative; Lecture Forum on Astronomy at Batasan National High School, Quezon City; Lecture Forum on Astronomy at the Philippine Normal University; and Lecture Seminar on Astronomy for High School Science Teachers at the Department of Education, Division of Quezon City.

Youth Excellence in Science (YES) Awards. A total of 272 YES medals for the year 2010 were given to students who won in international competitions to honor their exemplary achievement. There were 170 awardees from NCR and 102 from the regions. The awarding ceremony for NCR was held last January 2011 at PHIVOLCS Building auditorium in Quezon City. DOST Secretary Mario G. Montejo conferred the award, assisted by DOST Undersecretary Fortunato T. de la Peña.

The YES Awards is in pursuant of the DOST-SEI objectives of developing a strong science culture among the citizenry through an institutionalized recognition system and motivating the youth to strive for excellence in the fields of science and mathematics.

Gawad LIDER. The Gawad Leadership and Innovations for Development Relevant to Science Education (Gawad LIDER) is a biennial award given to individuals and/or groups with sustained exemplary leadership in the field of science education and to those that develop and introduce innovations that improved science education.



During the Opening Ceremonies of the 2010 National Science and Technology Week (NSTW) at the Manila Hotel on 19 July 2010, each of the following 2nd Gawad LIDER winners were awarded with a medal and P200,000 cash prize:





- Dr. Simon Chua from Zamboanga City for Exemplary Leadership Award – Individual Category;
- National Engineering Center (NEC) from UP Diliman for Exemplary Leadership Award – Institutional Category; and
- 3. Dr. Fortunato B. Sevilla III from UST for Innovation Award

BPI-DOST Best Project of the Year Awards. The DOST-BPI Best Project of the Year Awards, a joint project of DOST and BPI Foundation Inc., continues to provide an invaluable incentive to students to continue their pursuit of research studies in the fields of mathematics, physics, chemistry, engineering, computer science and biology. Participants in this project are graduating students from 10 BPI accredited universities.



The awarding ceremony for School Year 2009-2010 was held on 22 January 2010 at BPI Main Bldg., Ayala Avenue, Makati City. The winners were:

2010 National Science	and Technology nce and Technolo	gy Week	
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	ita a	68	

AWARD / PRIZE	NAME OF STUDENT/SCHOOL	PROJECT TITLE
Best Project of the Year/ P50,000.00 from DOST-SEI plus trophy & Certificate from BPI	Ma. Ivy S. Dela Cruz UP Los Baños	"Removal of Chromium from a local Chrome-Tannery Wastewater by Sodium Sulfite Reduction Coupled with Sodium Hydroxide"
1st Runner-up/ P30,000.00 from DOST-SEI plus trophy and Certificate from BPI	John Carlo M. Malabad UP Los Baños	"Genetic Diversity in Representative Accessions of Cultivated Rice Species Using Grain Quality Candidate Genes Through EcoTILLING"
2nd Runner-up/ P10,000.00 from DOST-SEI plus trophy and Certificate from BPI	Michael A. Casas Ateneo De Davao University	"Optimization of Pectin Extraction from the Peels of Citrus microcarpa (kalamansi) and Proximate Analysis of the Residue for Selected Parameters"

Cool Science: Learning Science the Fun Way. This activity was part of the National Science and Technology (NSTW) Celebration on 21-22 July 2010 at the Philippine Science Centrum. Its aims were to draw out the creativity of the participants in designing and building contraptions that translate scientific principles into working models, expose students to a fun and entertaining way of learning S&T concepts through interactive exhibits, and explain to them the importance of protecting their creations as future scientists and inventors.

The whole day event was attended by five public elementary and five public high schools from Metro Manila, with each school represented by six students and one teacher. A total of 394 elementary and high school students and 28 teachers participated in the two-day activity. Topics covered by the lectures included creativity and inventions, intellectual property rights, among others.

During the workshop, students were grouped into teams and asked to design and fabricate a wind mill to transform mechanical power to electric power. The Board of Judges awarded prizes to the most creative entries from the following schools:

High School Division:

1st: Payatas High School

2nd: Kaunlaran High School

3rd: Baesa High School

Elementary Division:

1st: Daang Hari Elementary School

2nd: Gregoria de Jesus Elementary School

3rd: Muzon Elementary School



SEI implemented the event in collaboration with the Philippine Foundation for Science and Technology, with financial assistance from the DOST.

Biotech for Kids. As part of the 2010 National Biotechnology Week Celebration, SEI implemented the second year of "Biotech for Kids" at the Science Discovery Center, Mall of Asia on 25 November 2010. In attendance were 60 students, 8 teachers and 20 observers from Isabelo delos Reyes Elementary School, Gen. T. de Leon Elementary School, Silangan Elementary School, and Karangalan Elementary School.

Alitaptap Storytellers Inc. led the story telling session and a module on biotechnology for the kids while facilitators from SEI implemented learning modules on vaccines and rabies.



Other S&T Promotions and Media-Related Projects

2010 National Children's Science Congress. Held on 11-14 February 2010 at the People's Convention Center, Puerto Princesa City, the congress had the theme "Adapting to Diverse Science Culture for Development." It was conducted by the Science Club Advisers Association of the Philippines (SCAAP), Department of Education, ABS-CBN-DZMM in partnership with SEI.

In this event, the students exhibited their science investigatory projects for public viewing. This activity focused largely on novel discoveries that help meet their demands for greater knowledge and creativity in research. Also conducted were a science quiz, and science art and journalism activities. Around 700 students, teachers, supervisors and guests from 17 regions attended the event. The winners of the Congress received cash prizes, medals and certificates while their respective schools received trophies and certificates.

PhilAAS Career Planning Series. The DOST-SEI helped facilitate the Philippine Association for the Advancement of Science (PhilAAS) Career Planning Lecture for High School Students held on 23 June 2010 with the aim of encouraging secondary-level students to pursue S&T careers. In cooperation with other agencies like Philex Mining Corp., the event took place at the Thomas Aquinas Research Center of the University of Sto. Tomas in Manila, and at the Cagayan State University in Tuguegarao.

The UST forum gathered 259 participants from 16 schools, including those from Pateros, Binangonan, and Morong, Rizal. Dr. Fortunato Sevilla and Dr. Cristina Binag talked about Prospects of Careers in Nanotechnology, while Dr. Basilia expounded on Prospects of a Career in Materials Science. The PhilAAS Vice Presidents then expounded on their fields of expertise: Prof. Fortunato T. dela Peña – Engineering and Industrial Sciences; Dr. Ida F. Dalmacio – Agricultural Sciences; Dr. Lilia Rabago – Economics and Social Sciences; Dr. Lydia M. Joson – Medical and Biological Science; Dr. Corazon A. Menguito – Chemistry, Physics and Mathematics; Dr. Benjamin Austria – Geography and Earth Sciences; Dr. Reynaldo dela Cruz – Environmental Sciences; Engr. Alex Sy – Information Technology; and Dr. Sonia T. de Leon – Food Science.

The Cagayan State University forum drew 258 participants from 31 schools in Cagayan, Isabela, Nueva Viscaya and Quirino. In the morning session, similar presentations were made by the Division Vice Presidents for career opportunities in their respective fields of expertise. In the afternoon session, Dr. Leticia V. Catris, SEI Deputy Director, expounded on S&T Scholarships both for the undergraduate and graduate levels as well as updates on science education. Dr. Cristina

A. Binag talked about Nanotechnology:

Small Science, Big Deal. On behalf of
Dr. Fortunato Sevilla, she also presented
Nanotechnology Application in Food. PHILAAS
expressed its appreciation for the support given by SEI
and DOST Region 2 in bringing science closer to the people.

S&T Information Dissemination and Media Relations. SEI managed to effectively maximize public exposure on its plans and projects in 2010 via published press releases in Philippine Daily Inquirer, Philippine Star, Manila Bulletin and other newspapers, via free airtime on ABS-CBN, GMA-7, TV 5 and DZMM, media websites like abs-cbnnews.com, inquirer.net, gmanews.tv, and loqal.ph, and social media sites Facebook and Twitter. SEI also participated in one national and one international exhibition, two Metro Manila and four regional exhibitions, each with a minimum of 1,000 viewers.



creating communication and information links

e are only as good as the tools that we use. In our quest to provide education platforms and reform programs, a more than adequate IT structure will give us the advantage we need to enhance the information and communication links we establish between the various communities we serve. It will also help us perform our mandate and implement our strategies with greater efficiency, speed, and timeliness under the new administration as well as under the dictates of this increasingly digital age.

Systems Development and Upgrades

SEI's Management Information Systems (MIS). Taking advantage of the Agency's transfer from the old Philippine Textile Research Institute (PTRI) building to the New Philippines Science Heritage (PSH) Building at the Main Science Community Compound of the DOST in 2010, the Institute's MIS unit overhauled the Agency's whole systems and performed much needed upgrades.

As part of the team that laid the design for the new SEI office, the MIS unit submitted the LAN wiring layout and facilitated the installation of the cables. Every workstation was connected to newly acquired network switches mounted on each office/division and connected to the core switches located at the server room. Two units of wireless access point were also installed for wi-fi. Internet service provider, while eMeralco Ventures Inc. was contracted to cater to the 6 mbps (from 2 mbps) Internet access requirement of the Institute. Connection to DOST-ITD's fiber optic facility was also tapped to supplement other internet application needs such as Voice-over Internet Protocol (VoIP) used for regional communications.

New servers were also acquired to replace the outdated units of the Institute Website, Intranet, Online Application for Scholarship, and Email Servers. The SEI website has been modified according to the standards set by the DOST Webmasters Consortium. Another unit has been configured to host the Intranet of the Institute. Online Application for Scholarship has been made available to cater to the remote provinces of the country, while testing of the email server and the Unified Threat Management (UTM) appliance is currently being done.

The MIS staff also attended training sessions to upgrade skills and competence, with topics on Content Management System (Joomla!), PHP and MySQL, and Website Documentation. The MIS technical staff were also involved in several committees in and out of the institute's network of linkages, such as the Webmasters' Consortium of the eDOST-INFOSYS, Network Management Group of the eDOST-INFRA for the DOST-wide activities, and the Bids and Award Committee (BAC) for the procurement process.

The MIS personnel provide day-to-day technical support for the ICT users, ensure reliable connectivity, and develop and maintain databases and information systems in coordination with the other units in the Institute.

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ensuring excellence in managing education outcomes

s a means of improving our performance and raising our goals and achievement for the different publics that we serve, the Institute has become, over the years, very much aware of the importance of implementing a rigorous and systematic approach to self-evaluation of our education functions. These external and internal scrutiny processes provide us – as with all other service-oriented organizations – a solid framework for better integration of our services at the points of delivery: the children, the educators, the institutions, the policymakers, and the partners we work with, both public and private. Self-evaluation should naturally lead to the maintenance of high standards, to assure further improvement in performance. Only by such rigorous examination of our impact and of our outcomes in the communities we touch will our effectiveness be thoroughly and comprehensively evaluated.

Internal Management Initiatives

SEI Quality Management System conforming to ISO 9001:2008 standards. SEI undertook the Initial steps to establish the Quality Management System (QMS) preparatory to securing an ISO 9001:2008 global certification standard for quality management process. Towards this end, the Institute conducted a series of seminar-workshops for the process owners of its programs and projects on 10-12 December 2010. This project is spearheaded by the Quality Management Committee and the Internal Audit Group.



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financial report

Statement of Allotment and Obligations FY 2010

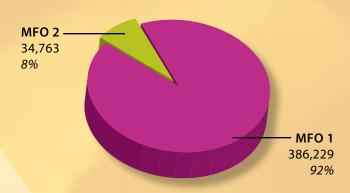
(P'000)

PAPs	PS		MOOE		TOTAL	
rars .	Allotment	Obligations	Allotment	Obligations	Allotment	Obligations
1) General Administration and Support Services	13,245	13,235	7,083	6,603	20,328	19,838
2) Operations						
 Development, Utilization and Implementation of Science Culture Development Promotion 	2,495	2,486	465,493	365,493	467,988	367,979
Science Culture Development Promotion	3,194	3,184	3,577	3,572	6,771	6,756
Research, Innovations and Training in Science Education	2,767	2,766	26,840	23,653	29,607	26,419
TOTAL	21,701	21,671	502,993	399,321	524,694	420,992

Budget Distribution Per MFO

(Amount in Thousand Pesos)

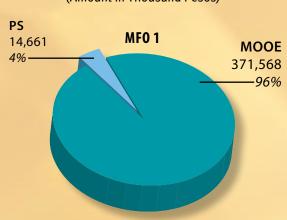
ACTUAL EXPENDITURES (FY2010)

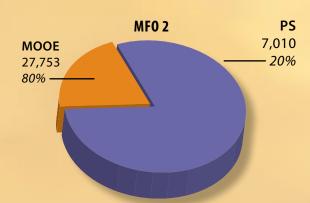


MFO 1: Administration of S&T Scholarship Program
MFO 2: Innovations, Research, Promotion and Development
of Science Education and Culture Promotion Programs

FY 2010 Expenditures Per Major Expense Class and Major Final Output

(Amount in Thousand Pesos)





logical framework



MAJOR FINAL OUTPUTS

MF0 1:

Administration of S&T Scholarship Programs

PAPs

- General Administration and Support Services
- Development, Utilization and Implementation of the Science and Technology Scholarship

MF0 2:

Innovations, Research, Promotion and Development of Science Education and Culture Programs

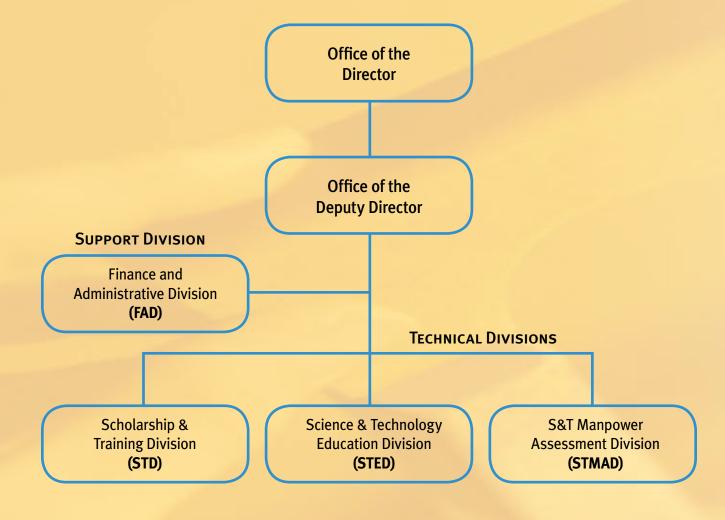
- General Administration and Support Services
- Science Culture Development and Promotion
- Research, Innovations and Training in Science
 Education

PERFORMANCE INDICATORS

- Number of scholars supported
 - Undergraduate Program
- Graduate Program
- Number of scholars tracked/monitored

- Number of trainees/recipients/beneficiaries of the specialized programs
- Number of researches/studies conducted
- Number of science and mathematics competitions conducted/participated
- Innovations and alternative delivery programs in Science Education

organizational chart



Key Officials of SEI



Ester B. Ogena, Ph.D.



Leticia V. Catris, Ph.D.
Deputy Director



Alice L. Asuncion, MPM
Division Chief
Scholarship & Training



Lilia R. Lauron, MATDivision Chief
S&T Education Division



Ruby R. Cristobal, MPS
Division Chief
S&T Manpower Assessment
Division



Aida T. Ayran, MBM
Division Chief
Finance & Administrative

officers & staff



MANDATE

To develop a critical mass of highly trained science and Technology (S&T) manpower by administering scholarships, awards and grants in S&T, and formulating and implementing plans for the promotion, development and improvement of science and technology education and training. SEI spearheads the direct investment in scientific training through the implementation of programs and projects to address the increasing S&T manpower requirements of the country for economic development.

VISION

By 2020 and beyond, SEI shall have developed the Philippines' human resource capability in science and technology required to produce demand-driven outputs that meet global standards.

MISSION

SEI's mission is to accelerate the development of S&T human resources of the country by administering undergraduate, graduate scholarships and advanced specialized trainings; and to develop science education innovative programs.

PERFORMANCE PLEDGE:

We, the employees of the Science Education Institute (SEI)
commit to:
Serve our clients promptly and efficiently;
Excellently perform our duty; and consider our clients as important as we are.



Science Education Institute

1F/2F Science Heritage Building DOST Compound General Santos Ave., Bicutan Taguig City