S&T HUMAN RESOURCES: RISING TO THE CHALLENGE
Statement of Mandates (per EO 128)

• Undertake science education and training
• Administer scholarships, awards, and grants
• Undertake science and technology (S&T) manpower development
• Formulate plans and establish programs and projects for the promotion and development of S&T education and training in coordination with DECS and other institutions of learning in the field of science and technology

Statement of Vision

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

Statement of Goals

• Accelerate the development of S&T human resource in the country by administering undergraduate and graduate scholarships and advanced specialized trainings
• Implement innovative science education programs
• Promote appreciation and interest in science among the citizenry
• Formulate policy recommendations toward improving the high-level training of future scientists and engineers

Statement of Program Thrusts

In support of the agreed long-term thrusts, the Human Resource Development (HRD) component will do the following:

• Enhance competencies of those expected to do R&D in the priority projects to deliver products and processes with high technology content
• Accelerate the development of human resources (BS-MS-PhD) needed for priority projects identified in the area thrusts

Statement of Strategies

• Developing high-level competencies in emerging/pioneering technologies
• Pursuing innovative/alternative schemes, approaches and partnerships in science and mathematics education and in nurturing talents towards careers in S&T
• Strengthening of R&D capability of network institutions offering graduate programs in S&T
• Developing alternative approaches for delivering undergraduate and graduate degree programs in S&T, such as local and foreign sandwich programs, company-based research degree program and research apprenticeship
• Strengthening the feeder system in basic science education for S&T
• Supporting legislative measures on HRD for S&T
• Conducting researches/studies to provide scientific basis for the various S&T human resource development programs and activities
• Improving S&T Governance
• Legislating measures on accelerating human resource capacity at graduate level in S&T approximating world standards, and providing funds thereof
• Providing legislative measures for developing world-class laboratory facilities
• Providing funds for big-ticket R&D priority projects, e.g. as specified in the RAND 2020

Statement of Programs

• Demand-oriented S&T education at the higher education level to stimulate high technology industries
• Quality science education for nurturing feeders in S&T
• Science and mathematics competitions nationwide at the basic education level

Statement of Performance Indicators

• Ranking of PHS and S&T Oriented Schools in International assessment studies
• Number of BS/MS/PhD produced
• Number of trainees/recipients/beneficiaries in the specialized training programs in science and mathematics
• Number of science and mathematics competitions conducted/participated/assisted
• Number of local and international citations in journals and other publications
When it was introduced in 1994 by then President Fidel V. Ramos, Republic Act 7687 or the Science and Technology Scholarship Act quickly became the main building block for the development of much-needed human resources for S&T. Under the administration of Science Education Institute of the Department of Science and Technology (SEI-DOST), this landmark legislation is responsible for laying equal opportunities to quality education for numerous poor yet deserving students. Today, more than ever, the country is seeing continuous ranks of potential technological innovators who may someday lead our industries in a more competitive era, bringing the Philippines at last to the brink of being an important player in the global economy.

Having already proven itself at par with this challenge of producing a critical mass of S&T students and professionals, SEI is gaining a growing awareness of the need to not only make more students interested in science and mathematics education but to also help them come up with practical ways to benefit local industries. A greater and more consistent call is coming from various sectors to achieve that delicate balance between promoting academe-based scientific research and development among students, scientists and educators and enabling valuable investment returns in the private sector and other government agencies.

This can only be the next logical progression after concurrent efforts by public and private schools, universities and other institutions to improve science and technology education in the Philippines. Addressing the UP community in a forum called last year, Ateneo de Manila University President Fr. Bienvenido Nebres, SJ delivered a lecture entitled “Building Internationally Competitive Institutions and Overcoming Poverty: Can These Two Pattis Converge?” with the same theme of merging the paths of academia and economic growth. According to him, now is the time for universities to explore a “new frontier” by linking science, engineering and industry and helping the Philippines become a part of the global knowledge economy.

The challenge here, according to Fr. Nebres, is to link universities to industry, possibly through projects such as science and technology parks similar to those in India and Silicon Valley, to develop S&T-based industries. These would entail a “seamless link among various pieces” comprising of technology innovation, venture capitalists, the legal and regulatory framework, and markets.

**Integrating education with industry**

Greater involvement of industry in education and curriculum development is also welcomed, in as much as technological advances frequently take place in industry, and the industry requirements of graduate skills are often dependent on the pace of curriculum developments. An industry-integrated curriculum would also lead to better informed teaching staff and greater student satisfaction. Industry contribution to high school ICT teaching may also help improve poor perceptions of an ICT career and increase student interest.

Industry analysts predict growth to continue to take place concurrently in all four major sectors of ICT i.e., hardware, software, services and communication. The growth and expansion of ICT will have two major impacts on ICT education: more trained human resources will be required at all levels including maintenance, design, development, implementation and leadership; concurrently, new developments and inventions will create new fields in ICT which will demand the introduction of new courses and training programs at all levels.

Students can only benefit from the integration of work-based learning, industry placements and working on industry projects, as this gives them real-world practical experience. Likewise, this strategy also benefits academic staff by helping them keep abreast of technological advances. Doing so will help address the demand for skilled ICT graduates, stem the decline in enrolments, enhance the quality of teaching, and improve the perception of the ICT profession among the general public.

**Inculcating importance of research**

The economic crash in 2008, from which the whole world is still reeling, has greatly brought to the forefront the importance of the education sector to work hand in hand with industry. In the face of declining economies, countries need to develop their self-reliance even more — and self-reliance can only be possible with adequate numbers of highly skilled human capital for S&T.

Speaking at the 26th anniversary of the Philippine Council for Energy Research and Development (PCIERD) held last year, Philippine Vice President Noli de Castro also urged schools and students to conduct research to benefit local industries. The development of a talent-rich pool of scientific researchers is part of SEI’s priority concern given its vast potential to further the development of science and technology in the country and spur economic growth.

The emphasis on research rests on its unquestionable importance in contributing to economic progress. Research in education is important as it leads to progress in science education and consequently progress through science. Even if the funding or number of PhDs is increased, development will hardly follow if there is inadequate correct research output. This is why any prescribed increase in R&D expenditure must be done with the assumption that, like in well-developed countries, research is done properly. Research begets progress to support more research and onwards to industrialization.

**Retaining human resources**

Formulating S&T curricula that are in tune with national and international demands and intensify research must also be strongly complemented with programs that make working here more attractive for professionals. The significant budget increase given last year to the Department of Science & Technology is particularly laudable as it aims, among other priority thrusts, to accelerate the production of high level S&T human resources, especially in the area of R&D.

This marked for the first time the Philippines was able to allocate more than 0.14 percent of its gross domestic product (GDP) for R&D, in the face of a UNESCO report stating that developing countries typically allocate 1 percent. The highly successful Balik Scientist Program has also produced great strides in contributing to R&Ds in the priority areas that it covers, while the ongoing global economic recession can also be taken providentially, as it is the opportune time to win back more brains that can provide new ideas and innovations.

Providing well-targeted support to scientists, especially at the beginning of their research career, will contribute robustly to strengthening our national science capacity. It is about time we move beyond the question of whether ICT can support education and industries and start tackling how much, what, where, and how ICT can provide value to the existing system. By knowing what practices, models, strategies and approaches in place, we can successfully integrate ICT education with industrial requirements in a sustainable manner.
Message from the Secretary

The year 2008 marked the 50th anniversary of the Department of Science and Technology (DOST). Making it a really favorable year for us were many positive milestones that indicated an increasing public consciousness about the importance of science and technology in our individual lives and in nation building. In spite of – or perhaps, more appropriately, due to – the global financial crisis that swept throughout the year, the government and private and public enterprises highlighted the need to intensify all efforts that will make our country rely more on its resources, specifically human resources, as economic opportunities abroad began to tighten.

We at the DOST remain fully committed to the government’s pursuit of the vision to make our country join the Test world ranks in 20 years. Technology is the foundation of our future economic development, and human resources are the pillars that will support our growth. The Science Education Institute’s overall strategy is in line with the Medium-Term Philippine Development Plan, which firstly calls for enhancing the competitiveness of our human capital; secondly, developing a critical mass of scientists and R&D personnel; thirdly, speeding-up knowledge creation and dissemination to push productivity, and fourthly, improving the mechanisms that promote technology-based entrepreneurship.

The government is clearly attentive to our gains, and we are thankful for the high level of investments pouring in for our research and development initiatives. This kind of support is the most encouraging thing to have happened in a long while, and we are using it to address national programs, acquire new knowledge, keep pace with the modern S&T environment, and improve future performance so we can become more valuable contributors. We are prioritizing research in areas that include biotechnology, agriculture, alternative energy, information and communication technology and health, among others.

Naturally, to the extent that our country desires to develop business and commerce related to science and technology, it is critical to have an adequate work force that is effectively trained in this field. SEI continues to post commendable accomplishments designed to motivate and inspire people to pursue S&T careers and bring greater awareness to the public of the wonders of science around us.

I invite you to delve further into the SEI Annual Report to learn more about these and our many other FY2008 efforts.

Thank you.

ESTRELLA F. ALABASTRO, Ph.D.
Secretary
Department of Science and Technology

Message from the Director

After 15 years of implementing RA 7687, we at the DOST-SEI are heartened to note the growing diversity of sectors expressing their deepening concern and yearning for involvement in improving the condition of the country’s science and technology capability.

In our pursuit of attaining a critical mass of S&T human resources via education, we are likewise witnessing a critical mass of participants – both public and private organizations and individuals – that recognize the importance of science, mathematics and other related fields in nation building.

It is now being widely thought that industry could do more to help in promoting our various priority fields of study, and that government could address the issue at all levels. We are aware of a constantly intensifying relationship between industries and universities, resulting in the development and implementation of industry-integrated curricula. Our efforts are centered firmly in advancing our areas of Agriculture, Biology, Biotechnology, Chemistry, Earth and Space Science, Environment, Fisheries, and Marine Science, ICT, Materials Science and Engineering, Mathematics, Medical and Pharmaceutical Sciences, Microelectronics, and Physics.

Efforts to achieve sustainable development will be fatally undermined without a serious commitment to revitalize science. The government’s strongest acknowledgement of this fact came early in 2008 when it appropriated a bigger budgetary support that helped a long way towards achieving one of the Department’s priority thrusts, which is to accelerate the production of high level S&T human resources, particularly for R&D through the Science Education Institute.

Now more than ever, the government is very determined to establish a pool of science researchers, engineers and educators, with MS and PhD degrees. President Gloria Macapagal-Arroyo has pledged to invest billions more in engineering research and development technology to achieve a critical mass of R&D-capable manpower.

The role of researchers is increasingly being understood, with more calls coming in from the government and private entities that encourage students to conduct researches that are practical and beneficial to various industries. The need to create additional science centers has also been noted, as they play a critical role in motivating young people who want to pursue further education and learning in the sciences. These facilities also provide opportunity for the public to understand S&T and become more informed citizens.

With more such petitions, developments, and initiatives, our role at the Science Education Institute is continuously becoming more challenging every year. Rest assured that our commitment to fulfill our mandate, our strategies, and our program thrusts makes us more than able to meet these challenges and others to come.

ESTER B. OGENA, Ph.D.
Director
Science Education Institute
Human Resources Development Programs

The RA 7687 program supported a total of 8,264 in 2008 (6,295 ongoing and 1,141 graduates), an increase of 1.09 percent from 8,177 in 2007. The 2009 S&T Scholarship-qualifying examination was conducted nationwide in 93 test centers on November 9, 2008 with 21,585 examinees. Among them, 2,481 successfully qualified AY 2008-2009. The GREAT-M Project had produced a total of 38 graduates over the years, with 12 scholars graduating in technology courses for 2008. Project GIFTS or the Government Initiative on Fellowships for the Talented in the Sciences for the Disadvantaged was also implemented. In the first stage, 114 passed the criteria for scholarship. Also launched was the Program on Regional Opportunities for Graduate Science and Engineering Scholarships (PROGRESS for the Disadvantaged). For AY 2008-2009, 6 applicants qualified, with 4 going to MS and 2 to PhD courses.

Under the MERIT scholarship program, 89 B.S. scholars graduated in 2008. The total number of scholars supported in 2008 was 1,309 (1,030 ongoing and 89 graduates). This number is 11.6% higher than the 914 total scholars in 2007.

DOST-SEI’s initiative entitled 2nd National Survey on Science and Technology Education was published in the third quarter of 2008. Likewise, the “S&T Skills Migration Study” completed and published its first part covering “Emigration of Science and Technology Educated Filipinos, 1998-2006” in the fourth quarter of 2008.

Technology and Curriculum Development Assistance

Three out of the five Mobile Information Technology Classrooms (MITC) units underwent much needed body repair and engine maintenance during the first quarter of 2008, necessitating the re-evaluation of their requests for regional deployment. Nevertheless, one unit managed to train 265 students, 45 teachers in 4 schools in the third district of Camarines Sur from December 2 to 19, 2008. The oldest of the units, deployed in 2000, has served the CARAGA region continuously for 8 years, serving 6,775 students and 207 teachers in 16 schools and 18 officials of Barangay Rosas from January to October 2008.

SEI conducted a seminar on “Science and Mathematics Education Summit: Assessing the Proposed Science and Mathematics Frameworks for Basic Education and Teacher Education” on Sept. 17, 2008 at the Angeles International Center, De La Salle-College of St. Benilde.

SEI supported the development of Model S&T Enhanced Curriculum for Pre-School, a science-based pre-school syllabus for DOST Day Care Center, with consultants from Labworks Education Services and the support of the teachers.

Teaching-Learning Enhancement Programs

The e-Training for Science and Mathematics Teachers completed its 10-month duration in September 2008. Among the 490 available slots, 401 completed the course, while 225 availed themselves of the ICT grant.

![Image](image.png)

**Project MOVE UPS** conducted a teacher training program for elementary teachers and the Principals of the feeder schools in regions X and ARMM, which are Muslim-dominated areas. The Principals of the 60 feeder schools attended training at the Mindanao State University (MSU), Marawi City on February 25-27, 2008. From May 19 to June 7, 2008, a total of 120 science and 120 mathematics teachers were trained at the MSU.

Sixty (60) Mathematics teachers and educators from 14 different cities and provinces across the Visayas region underwent the Mathematics Investigation Training from October 13-17, 2008 at the Institute of Information and Communications Technology Building at West Visayas State University, Iloilo City.

SEI sponsored 10 of its scholars majoring in Physics to the 1st Physics Education Festival held at the Ateneo de Manila University on May 26-28, 2008. The agency also sponsored 40 teachers to participate in the National Tri-Level Conference of Teachers and Educators organized by the Metrobank’s Foundation Network of Outstanding Teachers and Educators.

**S&T Promotions Programs**

The first batch of winners of the Gawad IDHER award for distinguished contributions to the development of science education, was named in July 2008. The sequel to the 2006 S&T radio competition program called Pinoys SciTeck Challenge (PST Challenge) was conducted to sustain the interest of the youth in science and technology through a radio quiz show.

More Filipino youth’s laudable accomplishments were recognized in the field of mathematics with the country’s participation in the Philippine Mathematical Olympiad, which entered its 11th year in 2008; the International Mathematical Olympiad, which was particularly challenging for the local team; and the 2008 Australian Mathematics Competition, the international correspondence mathematics competition administered by the non-profit Australian Mathematics Trust.

The ASEAN Youth Science Summit successfully brought in 149 participants, including 40 students and 10 teachers from 10 ASEAN member countries, for a 2-day summit to raise student awareness on the global, regional and national issues affecting the region and the world.

The country hosted for the first time the 2nd International Earth Science Olympiad which featured two main activities—the competition phase consisting of written and practical tests, and the cooperation or field investigation phase. The 67 international participants were composed of delegates from USA, Japan, South Korea, Taiwan, Singapore, Indonesia, and the Philippines.

The Science Education Lecture Series for Teachers & Students was held on July 30, 2008 at the Karhunar Convention Center, Tagbilaran City during the National Science & Technology Week (NSTW) Regional Celebration in Eastern Visayas, coinciding with the DOST 50th Anniversary.

Physiklaban was conducted on February 9, 2008 at the University of Santo Tomas, (UST) Manila by the Samahang Mag-aaral para sa Pagpapaunlad ng Pisika (SMPP), an alliance of different collegiate physics-oriented student organizations in the Philippines.

The UP-Lux Banos Microbiological Society, in celebration of its 20th anniversary, hosted MICROWEEK 2008 with the theme “Ensuring the Future: Innovating the World through Microbiology.” The event consisted of an exhibition, symposium, quiz contest on “Mikrobyo,” Biology quiz, Essay Writing and Poster Making Contest and Open Taumbayan.

For the whole month of September 2008, various activities were conducted around the country to celebrate the National Science Club Month, which carried the theme “Science Clubbing Optimized: Igniting and Innovating” Approximately 4,040 elementary and high school students participated in the month-long celebration.
Developing Human Resources in Science and Technology

The economic upheaval that dominated the whole of 2008 highlighted once again the importance of getting good education – specifically S&T education – as a way out of poverty. No less than Senator Edgardo J. Angara called for drastic reforms in education, saying that “A knowledge-based economy that thrives on innovation is the key to our development, but it requires first and foremost an effort to improve our education,” he said. “This means investing in education and upgrading science education at all levels.”

By the end of AY 2007-2008, the program produced 1,343 scholar-graduates in the BS and technician courses. Of this number, 6 students completed their courses earlier than the prescribed period or study while 166 or 12% graduated with honors. Below is the breakdown of the achievers:

- 3 Summa Cum Laude
- 25 Magna Cum Laude
- 128 Cum Laude
- 2 Honorable Mention
- 6 With Distinction
- 1 with Honors
- 2 Academic Excellence Award

The total number of scholars support in 2008 was 8,266 (6,293 ongoing and 1,343 graduates). Although budget for the program remains at the same level as that in 2007, the accomplishment still posted 1.09 percent increase (from 8,177 in 2007).

The 2009 S&T Scholarship qualifying examination was conducted nationwide in 111 test centers on November 9, 2008 with 21,585 examinees. The Overseas Workers Welfare Associations (OWWA), a “rider” in the examination, had 2,688 examinees. Successful candidates in the S&T Scholarship Examination for AY 2008-2009 numbered 2,481, and their names were published in 3 leading newspapers and posted in the SEI website. Together with their parents, they attended the DOST-SEI Scholarship Orientation and Signing of the Scholarship Agreement in April.

Under the S&T Learning Assistance Program, 1,732 freshman-scholars attended the Summer Orientation and Enrichment Program (SOEP), which was conducted in all regions in May 2008. For incoming senior Chemistry and Physics Teaching Scholars, the UP National Institute of Science and Mathematics Education Development (NISMED) conducted an intensive Summer Enrichment Training from March 31 until May 16, 2008. Likewise, 561 ongoing scholars underwent Summer Practical Training (SPT) in various research institutions and private companies.
Grant for Educational Assistance on Technology Courses for Muslims (Project GREAT-M)

Now on its 6th year, GREAT-M Project had produced a total of 38 graduates over the years, with 12 scholar graduates in technology courses for the year under review and with 2 of them graduating with honors by the end of 2007-2008.

As of 2008-2009, the program supported a total of 36 scholars who enrolled at the Mindanao State University, Iligan Institute of Technology (MSU-IIT), Mindanao State University-Marawi City (MSU-Marawi City), Western Mindanao State University (WMSU) and University of Southern Mindanao-Kabacan (USM).

MERIT Scholarship Program

Under the MERIT scholarship program, 89 BS scholars graduated in 2008. Thirty-six percent of them graduated with honors, 13 receiving Magna cum Laude and 19 Cum Laude, with all scholar completing the course earlier than the prescribed period of study.

The total number of scholars supported in 2008 was 1109 (1020 ongoing and 89 graduates). This number is 11.5% higher than the 994 total scholars in 2007.

At the start of the curriculum year of 2008, 739 high school graduates qualified under the program. Among the 437 who availed themselves of the scholarship grants, the new awardees, whose names were published in 3 leading newspapers and posted in the SEI website, attended with their parents a series of sessions for the DOST-SEI Scholarship Orientation and Signing of the Scholarship Agreement in April 2008.

From April to May 2008, 37 ongoing scholars underwent Suumer Practical Training (SPT) in various institutions and private companies. As of 2nd Semester of 2008-2009, the program supported 1200 ongoing scholars.

Junior Level Science Scholarships

This science and engineering scholarship for regular third-year students currently enrolled in S&T priority courses supported a total of 101 Bachelor of Science scholars as of 2nd Semester of 2008-2009. From this number, 14 had graduated. In the previous summer, 35 ongoing scholars underwent Suumer Practical Training (SPT) in various institutions and companies.

The year in review also saw the implementation of Project GREAT-S Scholarship Program in 2008-2009.

The new students, whose names were published in 3 leading newspapers and posted in the SEI website, attended with their parents a series of sessions for the DOST-SEI Scholarship Orientation and Signing of the Scholarship Agreement in April 2008.

From April to May 2008, 37 ongoing scholars underwent Suumer Practical Training (SPT) in various institutions and private companies. As of 2nd Semester of 2008-2009, the program supported 1200 ongoing scholars.

2008 DOST-SEI S&T Undergraduate Scholarship Special Examination

Due to the increasing number of deferred scholars who relinquish their scholarship grants as well as qualifiers with no report status, the National Technical and Selection Committee (NTSC) recommended that the examinations be held out by conducting a special examination for qualifiers of the National Career Assessment Examination (NCACE). The Department of Education’s National Educational Testing and Research Center (NETRC) provided 53 with the list of qualifiers of the NCACE who obtained percentile ranks of 75 or above. The qualified students were graduates of S&T-oriented high schools/special science high schools and were not able to take the DOST Scholarship Examination.

Out of the list provided by DepEd, there were about 1394 potential qualifiers who graduated from the 110 S&T oriented high schools nationwide. Of this number, 123 students took the special examination on July 26, 2008 at identified test centers nationwide.

After the results were evaluated, 19 examinees qualified for the Merit Scholarships while 64 qualified in the RA 7687 Scholarships. Notice of award and invitation to attend orientation on the scholarship policies and signing of the Scholarship Agreement were sent to the qualifiers.

The signing of the Scholarship Agreement of qualifiers for NCR was held on 30 June 2008 at the Traders Hotel, Manila. Those from the regions also signed the Scholarship Agreement and were given orientation on scholarship policies immediately after the interview.

The names of graduate scholarship qualifiers for First Semester and Second Semester of 2008-2009 were separately published on June 6 and November 23, 2008, respectively, in the Philippine Star, Philippine Daily Inquirer, Manila Bulletin and People’s Tonight.

Higher Learning Scholarship Programs

Accelerated Science and Technology Human Resource Development Program (ASTHRDP)

Responding to the call to place great emphasis on research and development (R&D), ASTHRDP aims to accelerate the production of high-level S&T human resources through Master’s and PhD degrees in the government’s priority S&T areas of study.

In 2008-2009, the breakdown of MS and PhD qualifiers/scholars under different components of the program is as follows:

<table>
<thead>
<tr>
<th>PROGRAM</th>
<th>NUMBER OF SCHOLARS</th>
</tr>
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<tbody>
<tr>
<td>University-based</td>
<td>657 MS qualifiers</td>
</tr>
<tr>
<td>Thesis &amp; Dissertations</td>
<td>112 PhD qualifiers</td>
</tr>
<tr>
<td>Extended Residential Program</td>
<td>75 MS grants</td>
</tr>
<tr>
<td>Foreign Scholarship (MST)</td>
<td>10 MS grants</td>
</tr>
<tr>
<td>Research Environment Program</td>
<td>29 PhD grants</td>
</tr>
<tr>
<td>Science Education Institute</td>
<td>78 on-going MS Scholars</td>
</tr>
<tr>
<td>3 Year Industry Component</td>
<td>33 new MS qualifiers</td>
</tr>
<tr>
<td>1 Year Industrial</td>
<td>1 PhD qualifier</td>
</tr>
</tbody>
</table>

Two (2) MS scholars graduated in SY 2007-2008. One of them, a straight BS-MS scholar, graduated Magna Cum Laude. In March 2008, the availability of graduate scholarships for First Semester of 2008-2009 was announced in three (3) leading newspapers: Philippine Star, Manila Bulletin and People’s Tonight. It was also posted in the SEI websites with links to the websites of the DOST Councils.

Series of interviews of potential qualifiers were held on May 19, 2008 at NCR (SEI) and on May 29-30, 2008 in Legazpi City, Iloilo City, Cebu City and Tacloban City. Cagayan de Oro City and Davao City.

The signing of the Scholarship Agreement of qualifiers for NCR was held on 30 June 2008 at the Traders Hotel, Manila. Those from the regions also signed the Scholarship Agreement and were given orientation on scholarship policies immediately after the interview.

The names of graduate scholarship

Below: Dr. Estier R. Ognia together with the new ASTHRDP Scholars at Abadarn Court, Quezon City.

Bottom: Dr. Ognia delivers her opening remarks during the Batch 4 ASTHRDP Scholars contract signing.
Accelerated Science and Technology Human Resource Development Program-Science Education Consortium (ASTHRDP-SEC)

The consortium, composed of four member universities in Visayas and Mindanao—University of San Carlos (USC) in Region VII, Western Visayas State University (WVSU) in Region VI, Mindanao State University (MSU Marawi) and University of San Carlos (USC) in Region VII, aims to catalyze the development of science education, with majors in Physics, Chemistry, Biology and Mathematics. The program aims to accelerate the number of competent educators, researchers and administrators in science education and to produce competent teachers in the Teacher Education Institutions (TEIs).

The program supports a total of 56 on-going PhD scholars, as follows:

<table>
<thead>
<tr>
<th>Institution</th>
<th>No of Scholars</th>
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<tbody>
<tr>
<td>University of San Carlos</td>
<td>33</td>
</tr>
<tr>
<td>West Visayas State University</td>
<td>28</td>
</tr>
<tr>
<td>Mindanao State University</td>
<td>2</td>
</tr>
<tr>
<td>De La Salle University</td>
<td>5</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Institution</th>
<th>No of Scholars</th>
</tr>
</thead>
<tbody>
<tr>
<td>UP Open University</td>
<td>36</td>
</tr>
<tr>
<td>University of San Carlos</td>
<td>33</td>
</tr>
<tr>
<td>De La Salle University (LPSC)</td>
<td>9</td>
</tr>
</tbody>
</table>

The first batch of MS scholars enrolled at USC and WVSU took their comprehensive examination during the year Effective Second Semester of FY 2008-2009. 9 scholars (2 MS, 7 PhD) qualified for the consortium program.

Their academic progress are monitored and evaluated by Project Leaders/ Coordinators in their respective Training Institutions. In FY 2007-2008, 8 PhD in Science Education scholars completed their programs of study.

Other Scholarship Programs

1. The Program on Regional Opportunities for Graduate Science and Engineering Scholarships (i-PROGRESS) launched in 2008 also aims to provide continuing educational support to poor but deserving DOST-SEI scholar graduates who have high interest and motivation to earn master’s and doctoral degrees. For FY 2008-2009, 6 applicants qualified with 4-going to MS and 2 to PhD courses.

2. Under President Gloria Macapagal Arroyo’s directive to further enhance S&T education, SEI co-implemented with the DOST the Engineering Research and Development Program for Technology (ERDT) Program. This graduate program supported by the ERDT Consortium Universities seeks to prioritize engineering courses and related fields. The consortium is composed of Ateneo de Manila University, Central Luzon State University, DeLa Salle University, Mapua Institute of Technology, Mindanao State University-Iligan Institute of Technology, University of the Philippines-Diliman and University of San Carlos.

In addition to attaining a critical mass of MS and PhD graduates, the ERDT Program aims to upgrade the qualifications of practicing engineers, upgrade engineering colleges, develop a culture of R&D, and implement research agenda aligned to the National Science and Technology Plan (NSTP) and Medium Term Philippine Development Plan (MTFDP)

Effective SY 2008-2009, programs came in the form of local master’s and doctoral scholarships, foreign doctorate and post-doctorate scholarships, visiting professorships, grants and research enrichment program.

A total of 90 students enrolled in the ERDT Consortium Universities received scholarship support, with 73 for MS and 17 for PhD courses. For Second Semester FY 2008-2009, 35 MS and 5 PhD new scholars received support under the program.

Related Activities

In Touch with Excellence

The 2008 In Touch with Excellence, the annual recognition ceremony for outstanding DOST-SEI scholars who graduated with honors, was held on July 16, 2008 at the Traders Hotel in Pasay City. In attendance were 58 scholar graduates accompanied by their parents, relatives and friends. In addition, 16 PhD graduates of the various graduate scholarship programs of DOST, SEI and the Councils were also awarded plaques of recognition.

For the first time, the Council of Science and Technology of the Philippines, in collaboration with the Council of Science and Technology of the Philippines, conducted a seminar on job hunting strategies for engineers and technologists. The seminar was attended by 38 scholar graduates, including 10 from the ERDT Consortium Universities. The seminar aimed to provide strategies and techniques for job application and build the confidence of getting their dream jobs.

Job Hunting Strategies Seminar

The 2008 Job Hunting Strategies Seminar was conducted last July 21, 2008 at the DOST Executive Lounge. The activity was attended by 38 scholar graduates coming from regions I, II, III, IV, V and CAR, aimed to prepare them for job application and build their confidence in getting their dream jobs.

Three scholar participants, namely, Mr. Carl Vincent Cabahilla (BSE Physics-UPC), Ms. Michelle Dian M. Chua (BS Chemical Engineering-UPC), and Ms. Charla A. Garcia (BS Chemical Engineering-UPC) were also included in the seminar.

Below (from left): DOST Secretary Estrella F. Alabastro together with a Scholar, his parent, Congressman Joseph Emilio Abaya, and DOST Undersecretary Fortunato T. dela Peña during the Job Fair at Ang Bahay ng Alumni, UP Diliman. Guest speaker Hon. Josep Emilio A. Abaya, Representative of the First District of Cavite, emphasized the role of science and technology as the driver of economic and social progress. He also mentioned the Technology Transfer Act which aims to stimulate research activities that would lead to important innovations in different fields.

Four Magna Cum Laude scholar graduates gave challenging responses. DOST Secretary Estrella F. Alabastro and DOST Undersecretary Fortunato T. dela Peña gave the inspirational message and welcome remarks, respectively.
the Philippines-Manila delivered their expectations regarding the said activity.

Ms. Karen Joyce Melby, Recruitment Manager of Canon Information Technologies Philippines, Inc. discussed the importance of self-assessment and self-confidence. Dr. Rosalinda C. De Mesa, Manager of Canon Information Technologies Philippines, Inc. shares her knowledge and experiences during the Job Hunting Strategies Seminar.

Job Fair for DOST-SEI Scholar-Graduates

The annual Job Fair for DOST-SEI scholar-graduates was held on July 24, 2008 at the University of the Philippines, Ang Bacay ng Alumni, Diliman, Quezon City. The event, attended by 78 scholar-graduates and 34 non-scholars, gathered 22 companies from various industries that exhibited available employment opportunities. These companies were:

- Abenson Inc.
- Amkor Technology Philippines
- Analog Devices Inc.
- Azeus Systems Philippines Limited
- Canon Information Technologies Philippines, Inc.
- Corporate Executive Search, Inc.
- Digi Software Philippines, Inc.
- Fluor Daniel, Inc.-Philippines
- Forecasting and Planning Technologies, Inc.
- Fujitsu Ten Corporation of the Philippines
- Hitachi Global Storage Technologies Philippines, Corp.
- JGC Philippines, Inc.
- Landbank of the Philippines
- Manila Electric Company
- Nikko Metals Philippines, Inc.
- O OCL Philippines, Inc.
- 3i Interaction, Innovation, Inspiration
- People Support Philippines, Inc.
- Petron Corporation
- Philippines EOS Techno-Services, Inc.
- SGS Gulf Limited
- Vinta Systems Inc.
- Vistal Systems Inc.

During the opening program, Dr. Ester B. Ogena, SEI Director, stressed the value of good education that the scholars earned during college days. Ms. Jean B. Martinez, a former DOST-SEI scholar and currently a Senior Research Analyst at RiskMetrics Group, shared her guiding principles toward successfully getting the dream job, and urged the participating companies to hire the DOST-SEI scholar-graduates and give them the chance of a lifetime.

Keynote Speaker En Estrella Alabastro, DOST Secretary, gave some pointers on how to find a satisfying career, citing such factors as job stability, permanence and professional growth.

The human resource managers of Nikko Metals Philippines, Inc., Azeus Systems Philippines Limited, and Abenson, Inc. also delivered their respective company talks.

Representatives of the Social Security System (SSS) and the National Bureau of Investigation (NBI) facilitated the application for SSS membership and the issuance of NBI clearances to the job-seekers.

Studies on S&T Human Resources

Science and Technology Human Resource Development Planning (STHRDP) Project

Science and Technology Skills Migration Study. DOST-SEI’s initiative entitled “S&T Skills Migration Study” completed and published its first part covering “Emigration of Science and Technology Educated Filipinos, 1999-2006” in the fourth quarter of 2008. The objective of the entire study is to provide baseline information that will help measure the outflow of S&T human resources to foreign countries and better understand the factors contributing to the gap in the supply of S&T human resource in the country, or the so-called “brain drain.”

While the published first part is to be disseminated to various government agencies as well as public and private universities in the first quarter of 2009, the second part of the study, covering “Profile of Temporary Filipino Overseas Contract Workers with S&T Qualifications,” will commence this same year and will study the profile of temporary Filipino overseas contract workers who had S&T occupations.

Assessment of Scientific and Technological Manpower Resources (ASTMAR)

2nd National Survey on Science and Technology Education. Having completed and compiled the results of the “2nd National Survey on S&T Education,” DOST-SEI published them in the third quarter of 2008. The survey, conducted in cooperation with the Directors of the Regional Science Teaching Center (RSTC), has three parts, namely:

1) “A Survey on Secondary Schools.” This part gathered baseline information about the school, qualification and trainings attended by secondary S&M teachers in the country, and the extent to which these schools use computers for instruction and other purposes.

2) “A Survey on Science and Mathematics Supervisors.” This part assesses the capabilities of science and mathematics supervisors based on their professional characteristics or qualifications. The study was conceived as an effort to establish a context for designing training programs and formulating policies in supervising S&M education and to determine the percentage of qualified S&M supervisors. Qualified supervisors are those whose field of specializations matched that of the subject area they are supervising.

3) “Survey on Higher Education Institutions (HEIs) Offering Bachelor of Secondary Education (BSE) Programs.” This final part gathered baseline information on HEIs pertaining to the capabilities of their faculties, admission requirements, student’s personal/demographic characteristics, school facilities and priority needs for support and upgrading.

Copies of the publications are to be disseminated to various secondary schools, higher education institutions offering Bachelor of Secondary Education programs, and science and mathematics supervisors nationwide in the first quarter of 2009.
After going through an overwhelming brain drain in the past decades, with its resultant erosion of our sense of competitiveness, the Philippine government is finally taking significant steps to revitalize our educational system. President Gloria Macapagal-Arroyo called for its restructuring during the First Biennial Education Congress early last year, an event dubbed as a “turning point” in Philippine education and a meaningful, tangible testament of the collective desire of all sectors to improve and update the country’s educational system.

It has been said much too often that our educational system has fundamental resource gaps. And such gaps have led to the lower-than-desirable number of science and technology graduates the country has. An all-encompassing environment conducive to the pursuit of programs and projects necessary to promote reforms and attain the targets has now been laid down, and we are witnessing a more unified effort to apply stronger and more resolute quality intervention measures on our most crucial educational resource: the teacher.

Technology Assistance Programs

Mobile Information Technology Classrooms (MITC) in the Regions

Three of the five MITC units were pulled out from regional deployment during the last quarter of 2007 to undergo the needed body repair and engine maintenance. DOST-SEI conducted a bidding procedure on the basis of a cost estimate submitted earlier by Filipinas Daewoo Industries, Corp., the fabricator of the units.

With funding charged to the 2008 allocation, bidding for the repair started in February and was awarded to J&J Liner Services, which commenced repair in April. MITC unit with plate number SFK 514 was fully repaired on June 15, 2008 while MITC with plate number SFK 534 was repaired on July 19, 2008. The SFK 141 MITC unit, which required overhauling of its air-con sub-engine in addition to body repair, was fully restored on September 4, 2008.

The Partido Development Authority (PDA) of the third district of Camarines Sur submitted a proposal for a three-year deployment of MITC units. Upon approval and subsequent training of the designated driver and assigned staff, the MITC unit with plate number SGJ 141 left Bicutan, Taguig City for Tigaon, Camarines Sur on November 9, 2008. The unit managed to train 265 students, 45 teachers, in 4 schools in the third district of Camarines Sur from December 2 to 19, 2008.

A similar proposal for short-term deployment of MITC with SFK 141 plate number was scheduled for January 2009.

Meanwhile, the MITC units in Siargao Island of Caraga and in Region XI continued implementing the project despite their conditions. The unit in Caraga, the very first MITC deployed in 2000, has been serving the region continuously for 8 years. By 2007, its air-conditioning system and its body needed repairs as well, along with its onboard facilities such as the public address system, VHS, and some computer notebooks that need to be replaced.
These topics were presented to various stakeholders from the academe, government, private and selected higher education institutions, all of whom were asked to comment on the documents presented. The role of the Panelists was to assess the papers and provide their recommendations. These observations were then compiled in a draft entitled “Science and Mathematics Education Frameworks.” The University of the Philippines-National Institute for Science and Mathematics Education Development (UP-NISMED) next conducted the consultative workshop on the Science Curriculum Framework for Basic and Teacher Education on December 9-10, 2008 at the UP-NISMED auditorium in Diliman, Quezon City. The documents are to be published in 2009.

Item Analysis and Validation of Admission Test for Entrants to S&T Oriented High Schools

Three (3) sets of test items developed in 2007 were validated in selected schools in Region I, CARAGA and NCR from April to May 2008. The test items will be endorsed to SepEd for their consideration to be used as Admission Test of first year students of the S&T Oriented High Schools.

Developing a Model S&T Enhanced Curriculum for Pre-School (A Pilot Project)

The objective of this project was to develop a science-based pre-school course syllabus for DOSt Day Care Center. Consultants from Labworks Education Services with the support of the teachers developed the curriculum for nursery and kindergarten and implemented it at the DOSt Day Care Center starting June 2008. Basic equipment and materials related to the curriculum were also provided.

Scriptwriting of Lessons in English and Filipino with Mathematics and/or Science Content in Grades 1-4 for CAI Development

This project was implemented in collaboration with the Reading Association of the Philippines (RAP). Scripts for 10 modules, out of a target of 40 modules in both English and Filipino, were written, ready for digitization and development into courseware or computer-aided instructional (CAI) materials.

Development of Interactive Science and Mathematics Courseware for Second Level Schools

Pre-development activities were conducted to facilitate the digitization of 300 science lessons and 260 mathematics lessons in the high school levels. These included setting up of space for staff at ASTI, the recruitment and hiring of staff, gathering of preliminary data and resources, and procurement and setting up of facilities for digitization.

The Advanced Science Technological Institute (ASTI) developed a website that will house all courseware modules, which will be made available for download 24/7. It also conducted the quality assurance testing of website functionalities based on installed components and plug-ins, front-end users’ experience, and secured back-end administration.

Despite these, the unit served 6,775 students and 207 teachers in 16 schools and 18 officials of Barangay Roxas from January to October 2008.

Curriculum Development Programs

Science and Mathematics Frameworks for Basic Education and Teacher Education.

SEI conducted a seminar on “Science and Mathematics Education Summit: Assessing the Proposed Science and Mathematics Frameworks for Basic Education and Teacher Education” on Sept. 17, 2008 at the Angelo King International Center, De La Salle-College of St. Benilde. The proposal covered the following topics:

• Science Framework for Teacher Education
• Science Framework for Basic Education
• Philippine Mathematics Framework for Basic Education
• Framework for Mathematics Teacher Education

These topics were presented to various stakeholders from the academic, government, private and selected higher education institutions, all of whom were asked to comment on the documents presented. The role of the Panelists was to assess the papers and provide their recommendations. These observations were then compiled in a draft entitled “Science and Mathematics Education Frameworks.” The University of the Philippines-National Institute for Science and Mathematics Education Development (UP-NISMED) next conducted the consultative workshop on the Science Curriculum Framework for Basic and Teacher Education on December 9-10, 2008 at the UP-NISMED auditorium in Diliman, Quezon City. The documents are to be published in 2009.

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Developing a Model S&T Enhanced Curriculum for Pre-School (A Pilot Project)

The objective of this project was to develop a science-based pre-school course syllabus for DOSt Day Care Center. Consultants from Labworks Education Services with the support of the teachers developed the curriculum for nursery and kindergarten and implemented it at the DOSt Day Care Center starting June 2008. Basic equipment and materials related to the curriculum were also provided.

Scriptwriting of Lessons in English and Filipino with Mathematics and/or Science Content in Grades 1-4 for CAI Development

This project was implemented in collaboration with the Reading Association of the Philippines (RAP). Scripts for 10 modules, out of a target of 40 modules in both English and Filipino, were written, ready for digitization and development into courseware or computer-aided instructional (CAI) materials.

Development of Interactive Science and Mathematics Courseware for Second Level Schools

Pre-development activities were conducted to facilitate the digitization of 300 science lessons and 260 mathematics lessons in the high school levels. These included setting up of space for staff at ASTI, the recruitment and hiring of staff, gathering of preliminary data and resources, and procurement and setting up of facilities for digitization.

The Advanced Science Technological Institute (ASTI) developed a website that will house all courseware modules, which will be made available for download 24/7. It also conducted the quality assurance testing of website functionalities based on installed components and plug-ins, front-end users’ experience, and secured back-end administration.
The interaction between scientific research and technological advancement is becoming more and more evident as social and economic growth attends to any country that nurses a strong synergy in these areas. Dr. Josette Biyo, 2002 Intel International Excellence in Teaching Awardee, warned that “No country will move forward until it develops a scientific culture.” She stressed the need to develop a “science and research culture” that would lead to a genuine science education. “Science education is not education at all unless we develop among our students the basic skills and attitudes such as observing, gathering correct information, interpreting data, curiosity, open-mindedness, and resourcefulness among others,” she said.

The National Integrated Basic Research Agenda (NIBRA), which was finalized and published last year, presents a highly practicable roadmap for attaining this culture of Basic Research, one that is geared towards national development and extends knowledge on emergent S&T fields and priority areas that will have the most impact on the country’s current situation. This presents a framework to channel our limited resources on the most relevant and promising research proposals that impact on the social, economic, political and scientific level. Developments like these are encouraging signs of a unified determination to move the country to where we truly want to go.
Mathematics Investigation Training

Sixty (60) Mathematics teachers and educators from 14 different cities and provinces across the Visayas region were trained in the use and integration of Mathematical Investigation to teach mathematics concepts, theories and principles. The objective was to develop deeper awareness and appreciation among teachers of the power of Mathematical Investigation as a tool for teaching that will translate into improved instructional strategies and interest among students.

The training was held from October 11-17, 2008 at the Institute of Information and Communications Technology Building at West Visayas State University, Iloilo City. At the end of the 4 days, teachers presented the outputs in a poster format and submitted their outputs as a group.

Digital Electronics Design Camp with Blended Learning Component

To provide curriculum enrichment for teachers and students in the field of digital electronics, this training was successfully conducted on two batches from April 24-30 and May 6-12, 2008 at the Philippine Science High School, Cebu City. It was attended by 31 teachers and 62 students from selected science high schools and PSHS Campuses. The trainers were experts from PSHS Diliman Campus and the Instrumentations, Robotics and Control Laboratory of UP Engineering in Diliman, QC.

Each school received the Microcontroller Training Kit fabricated at the Advanced Science and Technology Institute (ASTI), and other electronic peripherals and materials.

Among the project components is the training in teachers of Learning Management Systems (LMS), which was conducted on December 5-7, 2007. LMS are software for delivering and managing education online, and Moodle is an open-source software used in the OIC Campus. The specific Moodle site set up and used in the Campus were: 1) Advanced Programming; 2) Embedded Systems Design and Programming; and 3) Digital Circuit Theory and Design. A Digital Electronics Design class was offered for on-line dissemination and uploaded as a beta version hosted by PSHS servers. The PSHS Main Campus is taking care of its maintenance and the materials can be accessed through www.pshs.edu.ph/Moodle.

1st Samahang Pisika ng Pilipinas Physics Education Festival

SEI Sponsored 10 of its scholars majoring in Physics to the 1st Physics Education Festival held at the Ateneo de Manila University on May 26-28, 2008. The aim was to update physics educators and specialists on trends and issues in Physics education and research, and expose physics teachers to physics content and teaching approaches that can be applied in the classroom.

The festival featured researches and lectures in different topics in Physics, namely: Physics Online, Building and Programming a Wheeled Robot; Need for Speed: Using Computer Games to Teach Kinematics; Wave Demonstrations Using the Improved N-Environment and Projector; A Crash Course on Inquiry and Ergonomics of a Computer Work Station.

Support for Mentoring Program in Biology and Physics of DepEd Region 8

This program supported the efforts of mentors who are non-majors in the subject areas they are teaching. For DepEd Region 8, SEI supported 17 mentors in Biology and 17 mentors in Physics by providing them with laptops, printers and internet connectivity. Likewise, the teachers under them were provided with internet allowance to have access to new trends and teaching techniques in science teaching.

Rediscovering the Philippine Setting: Mining, Mineralization, and Tectonics Meeting

SEI-DOST supported the registration fee of 20 teachers who attended this scientific meeting which aimed to re-emphasize the geologic setting of the Philippines with regards to new exploration models, alternative tectonic models and the deposition to accumulation of resources. Held on October 2-4, 2008 in Quezon City and Batangas, the seminar also featured topics on meteorological factors, geologic hazards and other environmental concerns.

Training on Robotics Application in Teaching High School Physics

The aim of this program is to provide selected Physics teachers and students with training on the use of computers and robots and how to integrate these in their curriculum.

Hosted by the Philippine Science High School Main Campus-Advanced Science and Technology Building, the program trained 36 participants comprising of 26 teachers and 10 students belonging to 16 schools, 3 of which were under the PSHS System and 11 were public high schools.

Held on September 19-20, 2008, the seminar covered the following topics: Robotics in the Curriculum; the Robolab Environment: Designing Projects with Lego Mindstorms RCS, and Programming Data Structures in Robolab.

The main output for the two-day training were the Laboratory Challenges described below:

Challenge 1: Stop at Black (using the light sensor)
Robot must stop completely when it senses a black line.

Challenge 2: Escape from box (using the touch sensor)
Robot must find its way out of a simple trap, like a box enclosure or any 3-walled space.

Challenge 3: Spiral behavior
Mobot (mobile robot) must move in a spiral space.

Among the project components is the training in teachers of Learning Management Systems (LMS), which was conducted on December 5-7, 2007. LMS are software for delivering and managing education online, and Moodle is an open-source software used in the OIC Campus. The specific Moodle site set up and used in the Campus were: 1) Advanced Programming; 2) Embedded Systems Design and Programming; and 3) Digital Circuit Theory and Design. A Digital Electronics Design class was offered for on-line dissemination and uploaded as a beta version hosted by PSHS servers. The PSHS Main Campus is taking care of its maintenance and the materials can be accessed through www.pshs.edu.ph/Moodle.

with the theme “Innovations in Action: Meeting the Challenges in Science and Mathematics Education.” Held at the UPMAED on October 27-29, 2008, the conference gave teachers an opportunity to share innovative and creative solutions to problems/challenges in teaching and learning science and mathematics, and provided an exchange of exemplary practices and research results to improve teaching in these subjects.

2nd National Tri-Level Conference for Educators

SEI also sponsored the participation of 40 teachers to the National Tri-Level Conference of Teachers and Educators organized by the Metrobank’s Foundation Network of Outstanding Teachers and Educators, Held on October 21-24, 2008 at the Manila Hotel. The plenary sessions covered Environmental Issues and Initiatives, Government Legislations and Policies, and Best Practices and Success Stories.
It takes more than just academic proficiency to ascertain that the young generation will take up courses in science and technology. Imparting science knowledge and skills is one thing; engaging students’ real interest in science and science-related careers is another. Hands-on exposure to science is all the more important then in supplementing classroom pedagogy, since learning, for instance, can take place with just two minutes of exposure to science exhibits.

D OST-SEI believes that creating a steady supply of domestic scientists is dependent as much on our society’s ability to generate and sustain young people’s interest through direct science exposures. As Filemon Berba, president of the Philippine Foundation for Science and Technology, said “It’s easier to learn and understand things if they are experienced. This is why supplementing discussions of theories and principles with actual exposure to interactive exhibits can really help them appreciate science better.”

The call for the creation of more science centers nationwide is one step to attaining this, for it brings not just S&T to the regions but also growth through investments and infrastructure – a vital ingredient in the country’s pursuit of what President Macapagal-Arroyo said was a vision to join the first world in 20 years.

S&T Promotions Programs

Gawad LIDER

This biennial program, which stands for Leadership & Innovations for Development Relevant to Science Education, gives recognition and incentives to individuals and/or institutions that made exemplary contributions to the development of science education, or through the development of science and technology-based innovations or inventions that improved education.

Implemented in 2007, the 1st Gawad LIDER Award identified the following winners who were awarded during the Closing Ceremonies of the National Science & Technology Week (NSTW) in July 2008:

**Individual Category:**
- Dr. Flordeliza R. Mayari of DepEd Marikina City for Exemplary Leadership Award
- Mr. Virgilio P. Sarante of Don Eulogio De Guzman Memorial National High School, Bauang, La Union for Innovation Award

**Institutional Category:**
- Philippine Foundation for Science and Technology (PFST) for Exemplary Leadership Award
- UP National Institute for Science and Mathematics Education Development (UP NISMED) for Exemplary Leadership Award

In the year 2010, the 2nd Gawad LIDER will be awarded by SEI-DOST to another batch of distinguished science educators in cooperation with selected agencies.

Pinoy SciTek Challenge- Math Edition

The sequel to the 2006 S&T radio competition program called Pinoy SciTek Challenge (PST Challenge) was conducted once again to sustain the interest of the youth in science and technology through a radio quiz show. This second season, aired over DZMM/ABS-CBN Foundation program called “BagoYan Ah!” highlighted Mathematics to stimulate the interest of the youth in this subject, promote mathematics education, and encourage secondary school students to take up S&T careers. S&T news and developments were aired in segments that were either station-produced or fed by the different DOST agencies and other institutions, which included the private sector.

Junior to senior high school students from 27 secondary schools in Metro Manila and nearby provinces vied for the weekly competition. The PST Challenge was conducted every Sunday of the month from December 2007 to March 2008. The grand
28 Science Education Journals

organized and implemented by the following institutions on October 4-10, 2008: 1) Philippine Foundation for Science and Technology (National Capital Region – Marikina City) The PFS&T is on its 3rd year of implementation organizing educational space activities for pre-schoolers, students (public and private schools), teachers and the general public. Some of the activities conducted were: a) Encounter with a Space/ASTRONOMY Hobbyist (lecture/demonstration on water rocket); and b) Space Gallery Educational Tour. The week long celebration had 2,407 visitors including the participants in the lecture/demonstration on water rocket. 2) Bicol Science & Technology Center (Region 5 – Bicol Region) The activities conducted were: a) Open house for educational tours on space/astromony galleries; b) Teachers-students space related activities; c) Water rocket making and launching contest; d) Planetarium viewing; e) Balloon and upper balloon flying; and f) Regional Educators Seminar on Space Science and Technology. Live interview segments and coverage were also aired over radio station RMN DWXN and TV station ABS-CBN. A total of 6,176 students, teachers, and other guests attended these activities. 3) RECORD Foundation, Inc. (Region II – Davao) The activities conducted were: a) Symposium on Space Technology and its Utilization; b) Trainer Training on the Use of the PAGASA-donated telescope; c) Star-gazing; d) Film showing on Space Exploration; e) Design of a Space Capsule; and f) WSWS Information Board Display Design Contest. These activities attracted 350 elementary, high school and college students, university faculty and high school teachers and Mindanao Science & Technology Center staff.

2008 World Space Week Celebration.

The 2008 World Space Week Celebration opened on October 6, 2008. The University of the Philippines National Institute for Science & Mathematics Education Development (UPNIMED) hosted the Opening Ceremony and other activities such as Lecture Demonstration on Water Boosted Rocket Making and Water Rocket Competition. On October 10, 2008, the Philippine Atmosphere, Geophysical and Astronomical Services Administration (PAGASA) hosted the Planetarium Show, Lecture Series on Astronomy and Awarding and Closing Ceremony. Around 300 students, science teachers, and other guests attended these activities in Metro Manila. Regional activities meanwhile were also

Other participants garnered Certificates of High Distinction, and Certificates of Prudence. The awards were honored in the 2008 AMC Philippine Awarding Ceremonies held at the Manila Grand Hotel on October 15, 2009. DOST Secretary Estrella F. Alabastro, Australian Ambassador Rod Smith, AMT Executive Director Prof. Peter J. Taylor, DOST Assistant Secretary Dr. Carol M. Yorobe, and Mathematics Trainers’ Guild of the Philippines President Dr. Simon L. Chua handed out the awards. Also in attendance were the awardee’s math coaches, other school mentors, and their parents. The project was successfully implemented with the Australian Mathematics Trust, public and private schools, Mathematics Trainers’ Guild of the Philippines, and some of the DOSt and MTG Regional Test Centers. Awarded with the YES Medal in 2008 were 219 winners in various international competitions, 116 awardees from the National Capital Region (NCR) and 63 awardees from the regions. ASEAN Youth Science Summit (AYSS) The AYSS was a two-day summit aimed at raising student awareness on the global, regional and national issues that affect the Southeast Asian region and the world. It brought together representatives from twelve (12) nations, consisting of the ten (10) ASEAN members and two (2) dialogue partners. Last year’s summit brought in 149 participants, consisting of 98 youths and 51 teachers. Local representatives came from the Philippine Science High School (PSHS) System, selected Metro Manila and Regional schools. Majority (97 or 65%) came from the Philippines while the remainder came from ASEAN Member Countries and Dialogue Partners. The participants sponsored by the ASEAN Foundation were 40 students and 10 teachers from the ten (10) ASEAN member countries. Specifically, the Summit aimed to: a) empower the students to plan for their future with the end view of using science and technology to harness the region’s natural resources wisely; b) serve as a venue to discuss the need

Youth Excellence in Science (YES) Awards 2008 The YES Award is a DOST institutional award for exemplary achievement of the youth in the fields of science and mathematics. Awarded with a medal of distinction, the recipients of this award are Filipino students who are able to win gold, silver and bronze medals in the individual or team category in international science and mathematics competitions. They are considered to be of value to DOST’s quest for excellence and shall be included in the roster of honorable young men and women of science.

Below: Third from left, DOST Undersecretary Fortunato T. dela Pena; DOST Secretary Estrella F. Alabastro, SEI Director Eneter B. Opina and MTG President Simon Chua, pose before the YES Medal Awardees of 2008.
to act with resolve and urgency, on the global and regional issues affecting present and future generations;
do cooperation, networking, and coordination among the youth towards greater involvement in issues of regional and global concerns; and
ten the youth to be more reflective and aware of their capacity to act on present as well as future problems and solicit their commitment and participation towards addressing such problems now and in the future.

With the theme “Power up for the Future through Science and Technology,” the summit featured areas of discussion within the ASEAN-COST Sub-Committee priority areas. The areas were:
1. Spectral Science: The View from Space (Disaster Mitigation through Space Technology Application).
2. Extremes (The Generalized Computer Game Animation).
3. Going Nuclear (Energy) and Gourmet Talk (Genetically Modified Food for Food Security).

Parlany Speakers presented 4 papers on the major areas during the Plenary Session:
1. Genetically Modified Food for Food Security by Dr. Raul Yasawin, Deputy Director, National Center for Genetic Engineering & Biotechnology, Thailand.
2. Space-Based Technology and Application in Malaysian Meteorological Department for Weather and Climate Monitoring and Prediction by Mr. Maznamin Mohammad, Director, Malaysian Meteorological Department, Malaysia.
3. Nuclear Power — Challenges and Opportunities by Dr. Kenrin Dahligren Fossan, Division of Nuclear Engineering, Department of Nuclear Energy of the International Atomic Energy Agency (IAEA), Vienna.
4. 2008 Extreme Games: Trends in Computer Games Development by Mr. Hamps Soderstrom, Chief Executive Officer Hibit Studios, Singapore.

For the Parallel Sessions, selected students from participating countries presented their papers in the four topics:
1. Gourmet Talk (Genetically Modified Food).
2. Going Nuclear (Energy) and Gourmet Talk (Genetically Modified Food for Food Security).
3. Spectral Science: The View from Space (Disaster Mitigation through Space Technology Application).

The Lecture Forum on Biotechnology was conducted last November 26, 2008 at the Philippine Nuclear Research Institute. There were 107 attendees of the lecture forum which include high school students, teachers, DOST staff and media. The forum touched on various topics covering these three spectra of biotechnology: GM Food, Health and Energy. The forum was chaired by the UP College of Public Health discussed the gains in biotechnology in relation to researches conducted to mitigate tuberculosis, a tropical disease prevalent in the country.

Energy from organic sources, particularly from jatropha and sweet sorghum, was discussed by Dr. Gloriani talked about researches on bioethics and biosafety. Dr. Laurena provided inspiration to the students on the importance of biotechnology in society.

Mr. Lance Co Ting Keh of the Philippine Science High School (PSHS)-Diliman Campus was appointed by the Organizing Committee as the AYSS Secretary General, being from the host country. He presided over the Plenary Sessions and presented the outputs of the body to the ASEAN-COST representative and the ASEAN Secretary General during the last Plenary Session.


**Philippine Mathematical Olympiad (PMO)**

The PMO, the oldest and most prestigious nationwide mathematics competition among secondary school students, entered its 11th year in 2008.

**Participation to the International Mathematical Olympiad (IMO)**

The 49th IMO last year presented an especially difficult challenge for the Philippine team. The largest, most prestigious and the most difficult mathematics competition among the best secondary students in the world featured a set of problems far above the level given in Philippine classrooms in terms of depth and difficulty, covering topics that are not part of our high school curriculum. Thus, students who formed the pool of candidates for our Philippine team needed to be selected very well, and those selected were given intensive and extensive training.

The IMO was held in Madrid, Spain on July 10-22, 2008. The Philippine team was composed of 3 students: Jeffrey Kenneth L. Go (Xavier School), Mark Benedict C. Tan (Xavier School), and Diogo Miguel S. Mertinho de Almeida (Ateneo de Manila High School). Their Deputy Team Leader was Dr. Julius M. Basilla of UP-Diliman while the Team Leader was Dr. Ian June L. Garces of Ateneo de Manila University. The Mathematical Society of the Philippines (MSP) took charge of the selection of delegates.

The event drew the participation of 102 countries and territories, with 536 student-contestants. As an IMO rule, to get a medal, the participant must belong to the top 50% of the contestants and the number of bronze, silver and gold medalists must be in the ratio of 3:2:1. Diogo Miguel S. Mertinho de Almeida (Ateneo de Manila High School) was awarded a bronze medal.

The Philippine participation to the IMO was jointly sponsored by SEI-DOST and the Mathematical Society of the Philippines (MSP) in cooperation with other mathematics organizations in the country.

**Philippine Robotics Olympiad**

The Philippine Robotics Olympiad (PRO), the preparatory competition that determined the delegates to the World Robot Olympiad, aims to challenge the intellectual and critical thinking skills of elementary and high school students. The competition is open to elementary students aged 10-12 years old and high school students aged 15-17 years old.

Last year’s two categories were Regular and Open, with the theme “Saving Global Environment.” There were forty (40) high school teams and twenty-five (25) elementary teams from public and private schools in the first preliminary competition. The Board of Judges selected 20 teams from high school level and 13 teams from elementary level to compete in the final judging (Table B shows the 2008 PRO winners).

**2008 World Robot Olympiad**

The first and second places from elementary and secondary levels both for regular and open categories in the Philippine Robotics Olympiad represented the Philippines in the World Robotics Olympiad held in Yokohama, Japan on October 21-22, 2008.

The Philippine delegation included students from the following schools:

**Elementary Level – Regular Category:**
1. Nemesio Yabut Elementary School (Team A)
2. Nemesio Yabut Elementary School (Team B)

**High School Level – Open Category:**
1. International School Manila
2. Grace Christian College
3. First Asia Institute of Technology & Humanities

**High School Level – Open Category:**
1. Benigno Aquino HS
2. First Asia Institute of Technologies and Humanities

**Three elementary pupils from the Grace Christian College composed of Edrich Hans Chua, Honefer L. Amancio and Dominique Hannah SY won the silver medal, trophy and certificate in the Open Category.** Their project entitled, “Green Who Community and the G-Techno Robot Engineering a Better World,” featured 12 robots doing various tasks to help save the environment. The coach of the team was Ms. Melanie Tison.

**Students from Benigno Aquino High School and the International School of Manila both won certificates in the Open Category of the High School and Primary Levels, respectively. Likewise, Ms. Ruby R. Cristobal of SEI received the Best Judge Trophy award as one of the WRO judges.** Felta Multi-Media Inc and DOST sponsored the Philippine delegation’s participation, including airfare and hotel accommodation for the duration of the activity.

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**TABLE A: 2007-2008 DOST-BPI Best Project of the Year Awards**

<table>
<thead>
<tr>
<th>AWARD WON/AMOUNT</th>
<th>NAME OF STUDENT/SCHOOL</th>
<th>PROJECT TITLE</th>
<th>ADVISOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Project of the Year</td>
<td>P30,000.00 (from DOST-SEI)</td>
<td>Cloning of Alcyonium Green Fluorescent Protein (GFP) as a Potential Tracker of Cancer Metastasis</td>
<td>Dr. Cynthia F. Salama</td>
</tr>
<tr>
<td>1st Runner-up</td>
<td>P30,000.00 (from DOST-SEI)</td>
<td>Molecular Cloning &amp; Characterization of the Abaca Beauty Top Yarn (ABTV) Coat Protein (CP) Gene &amp; Production of Antibodies for the Early Detection of ABTV</td>
<td>Dr. Nereus M. Aquino</td>
</tr>
<tr>
<td>2nd Runner-up</td>
<td>P30,000.00 (from DOST-SEI)</td>
<td>Extraction, Transient Transformation and Characterization of Bega (Calophyllum inophyllum) Seed Oil at Source of Biodiesel</td>
<td>Dr. Maria Natalia B. Osame</td>
</tr>
</tbody>
</table>

**TABLE B: 2008 Philippine Robotics Olympiad Winners**

<table>
<thead>
<tr>
<th>Regular Category (Elementary Level)</th>
<th>Regular Category (Secondary Level)</th>
<th>Open Category (Elementary Level)</th>
<th>Open Category (Secondary Level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Place Nemesio Yabut El. School</td>
<td>1st Place Philippine Science High School Ateneo Campus</td>
<td>1st Place International School Manila</td>
<td>2nd Place “Team X” High School</td>
</tr>
<tr>
<td>2nd Place Nemesio Yabut El. School</td>
<td>2nd Place First Asia Institute of Technologies &amp; Humanities</td>
<td>2nd Place Grace Christian College</td>
<td>2nd Place First Asia Institute of Technologies &amp; Humanities</td>
</tr>
</tbody>
</table>
International Earth Science Olympiad (IESO)

For the first time in history, the Philippines hosted an International Science Olympiad – the 2nd International Earth Science Olympiad (2nd IESO) — with the theme, “Cooperation in Addressing Climate Change.” Held on August 3 to September 8, 2008, the event had two main activities: the “competition” (written and practical tests) and the so-called “cooperation” (field investigations).

The competition phase was held at the UP National Institute for Science and Mathematics Education Development (UP NISMED), Diliman, Quezon City from September 1 and 2. All the participants then flew to Legazpi City on September 3 to commence the cooperation phase of the Olympiad. Besides the local delegates, others came from the USA, Japan, South Korea, Taiwan, Singapore, and Indonesia. Each delegation was composed of four high school students, two mentors and observers. In total, there were 67 international participants.

The final day in Bicol featured the roundtable discussion on climate change. Local high schools in Bicol, including Tabaco National High School, MORMS, Philippine Science High School–GOA, Legazpi City High School, Aquisai Science Oriented HS, BUCE-ILTS, among others, joined the international teams. The participants enjoyed the discussion with Hon. Gov. Joey Salceda who talked on the initiatives of the Province of Albay on Climate Change adaptation and mitigation. Each group presented their outputs to address various issues of climate change.

The most awaited part of the Olympiad was the awarding ceremonies. Like the first International Earth Science Olympiad in Korea in 2007, Taiwan and Korea again bagged the gold medals. Our very own Philippine team who were winners of the 4th Earth Science Quiz sponsored by the Earth Science Teachers Association of the Philippines (ESTA) received bronze medals.

The most anticipated event for sharing the latest results and techniques in physics and physics education among physicists in the academy, industry and government, was held at the University of the Philippines-Baguio on October 22 to 24, 2008 with the theme, “Taking Physics to the Summit.”

This year’s congress drew 300 students, 45% of whom were from UP-Diliman, 12% from Ateneo De Manila University, 6% from UP-Baguio and 5% from UP Los Baños. SEI-DOST sponsored the participation of 25 undergraduate students, most of whom presented papers in the conference.

Best Poster Award. SEI-RP also gave a best poster award this year. The winning piece featured the performance of a two-photon fluorescence (2PF) microscope with a virtual pinhole. The virtual pinhole removes scattered signals resulting to improved contrast and the visibility of details masked by scattered signals. The presenters were P.C. Hilario, G. Buatista and Y. Darus of the UP-National Institute of Physics.

Career Orientation. The SPP also organized a career orientation program for Baguio City National High School and CAR Regional Science High School. Dr. Armand Murul, a Balle-Scientist awardee and Dr. Raphael Guerrero, NAST Young Talents awardee inspired students to take up physics in college.

National Training Course on Design & Development of Kit/Apparatus for Teaching Optics & Lasers in Introductory Physics

This training course, held on May 5-9, 2008 in Sorsogon City, aimed to develop work skills, attitudes and knowledge about the use and construction of optics/apparatus in introductory physics in secondary and tertiary levels. The activity was attended by 63 physics teachers/instructors from Region 4, 5, 8, NCR and CARAGA (see Table C for the winner).

Conduct of Lecture Series for Teachers & Students on the Occasion of the National Science & Technology Week/DOST 50th Anniversary in Eastern Visayas

One of the major activities of the 2008 National Science & Technology Week (NSTW) Regional Celebration in Eastern Visayas (coinciding with the DOST 50th Anniversary) was the Science Education Lecture Series for Teachers & Students held on July 30, 2008 at the Kanhuraw Convention Center, Tacloban City. As one of the initiatives to boost science

International Museum Day

The 26th Samahang Pisika ng Pilipinas (SPP) Physics Congress

The 26th SPP Physics Congress, an annual event for sharing the latest results and techniques in physics and physics education
& technology in the region, it aimed to encourage more students to take science or science-related careers. The event was attended by 65 science and mathematics teachers from different secondary schools in the region. The topics and resource speakers were as follows:

- **MS. LILIA R. LAURON**, Chief, SEI-DOST Status of Science & Mathematics in the Philippines
- **MS. MARIANO S. VALLAR** Education Supervisor II/DepEd-8 Status of Science & Mathematics in the Philippines
- **MS. AMPARO F. OLARTE** Supv. SRS, STED-SEI-DOST Computer Aided Instruction in Science

The Lecture on Science Education for Students drew 72 student-participants from different high schools, colleges & universities in Region 8. The topics and resource speakers were as follows:

1. **ENR. JASEH JENNIFER A. ESQUERRA**, SRS II, STI-DOST Software Quality Assurance
3. **MR. JOSITIMOT S. VERGEL DE DIOS**, Academic Developer/“Egole/Philippine/Phil. MS organisation in Education

Undergraduate Student’s Food & Nutrition Research Competition

SEI-DOST sponsored the cash prizes given in this competition that was conducted by the Food and Nutrition Research Institute (FNRI) on July 1-3, 2008, at the FNRI Auditorium, Belman, Tagaytay City. This annual competition, which is open to all universities/ colleges/ schools teaching nutrition and food technology, is held to encourage students to do research. It has 2 categories: a) Nutrition and b) Food Technology.

Seven entries were received, with 4 from the University of the Philippines Visayas, 1 from the Polytechnic University of the Philippines (PUP)-Manila, 1 from University of Santo Tomas (UST), and another 1 from Bicol University College of Industrial Technology (BUCT). The entries were judged by FNRI technical staff.

- **1st Place:** Ria Andre Perez (UST) for her study on “Effect of Thyme on the Quality and Storage Stability of Frozen Chicken尽力”.

- **2nd Place:** Rizel P. Batis (UST) for her study on “Effect of Thyme on the Quality and Storage Stability of Frozen Chicken尽力”.

- **3rd Place:** Riza P. Villanueva (UST) for her study on “Effect of Thyme on the Quality and Storage Stability of Frozen Chicken尽力”.

Micro Week

MICROWEK was a week-long event in November 2008, sponsored by SEI-DOST and organized by the UP-Laoag Biospheric Microbiological Society (MIBOC) as part of the latter’s 25th anniversary celebration. With the theme “Fostering the Future: Innovating the World through Microbiology,” the event consisted of an exhibit, symposium, quiz contest on “Microbiology,” Biology quiz, Essay Writing and Poster Making Contest and Open Taumbyn.

Winners in the different events were as follows:

   - 1st Prize: Moy-Boy Palayboy Team
   - 2nd Prize: Team Ba
   - 3rd Prize: Henyo Kame

- 2) Essay Writing Contest: Participated by students from Regions IV and NCR.
   - 1st Prize: Cauite National Science HS
   - 2nd Prize: Grace Christian College
   - 3rd Prize: Lourdes School of Mandayung

- 3) Poster Making Contest: Participated by students from Regions IV and NCR.
   - 1st Prize: Pedro Guevarra Memorial National HS
   - 2nd Prize: Grace Christian College
   - 3rd Prize: Vicente Madrigal National HS

- 4) Inter-High School Biology Quiz Contest: Participated by 30 students from Regions IV and NCR.
   - 1st Prize: Lupa City Science High School
   - 2nd Prize: Lagusan National HS
   - 3rd Prize: Cauite National Science HS

ChemCamp

ChemCamp is an annual summer enrichment program for senior high school students with high aptitude in the Sciences, especially those with keen interest in Chemistry. Last year’s three-week program featured a comprehensive view of the field in Chemistry, and included discussions, demonstrations, and hands-on laboratory activities.

Two sections of classes were opened to accommodate a larger number of participants composed of 59 students from the public and private high schools in the National Capital Region. The program was implemented by the Department of Chemistry of the Ateneo de Manila University and was held at the Schmitt Hall, School of Science and Engineering from April 14-16, 2008.

Philippine Association for the Advancement of Science (PHILAA)

SEI-DOST supported PHILAA as one of the co-sponsors in the Career Planning Lecture held on June 26, 2008 at the Thomas Aquinas Research Complex (TARC), UST, Manila and on July 21, 2008 at the Polytechnic State College in Cagayan De Oro City. The lecture aimed to create an interest in scientific or engineering career among high school students by presenting to them successful scientists or engineers who can serve as a role model and can inspire them to pursue a career in science.

Attendees included 236 high school students from Metro Manila and suburban I and 137 high school students from Region 10.

Mathematical Society and Applied Physics Society of the College of Science, UST

SEI-DOST extended financial support to the Society to cover expenses for the mensen and the seizes of the various competitions held during the mathematics and physics week celebration on November 24-29, 2008.

Physikalaban

Physikalaban was conducted on February 9, 2008 at the University of Santo Tomas, Manila, and was the Samahang Mag-alaral pa sa Pagagpanuwal ng Psiksa (SPPM), an alliance of different collegiate physics- oriented student organizations in the Philippines. This day event featured not only physics contest for high school and college students but also career talks and research symposia offered by professors and researchers coming from SPPM member universities and private companies.

Two contexts for high school and college students were held at the UST Yan Kee Auditorium while the talks were conducted at the Thomas Aquinas Research Center. The judges for both contexts were Dr. Dickinson Moreno of the DLSU-Manila Physics Department, Eng. Angelina S. Mol of UST Physics Department, Mr. Joel Maquiling of ADMU Physics Department and Mr. Arwin Borja of PNU Physics Department. Participants included 33 public and private high schools and 39 colleges/universities.

Winners in the High School Category:

- First – Team from Deaconess City Science High School
- Second – Team from Adamson University High School
- Third – Team from Southville International College

National Science Club Month (NSCM) Public for the whole month of September 2008, various activities were conducted around the country to celebrate the National Science Club Month, which carried the theme “Science Olympiad, Igniting and Innovating!” Approximately 3,000 elementary and high school students participated in the various categories of the celebration.

The activities done at the national level were:

1. National Science Club Summits;
2. PSYSC Science Olympiad; and
3. Science High School – Bicol Campus

The NSCM 2008 was the 5th PSYSC Science Olympiad, which consisted of Elimination Rounds held in various regions of the country and the National Finals held at the PHIVOLCS Auditorium. The judges were: Dr. R. Rosalinda T. Yangco for Biology, Life Science, Health Science; Bv. Ophelia Aguas for Information Technology and Basic I; Dr. Vincent Lao for Astronomy; Mr. James Kevin Ty for Astronomy; Dr. Jose Perico Esquerra for Physics; Dr. F. Carolina Hernandez for Chemistry; Dr. Allan Gil Fernando for Earth Science; and Mr. Michael Reuben

Soils for Physics and Physical Science. The following were the winners:

<table>
<thead>
<tr>
<th>Bracket I: Elementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Champions:</td>
</tr>
<tr>
<td>The Learning Tree Child Growth Center, Inc.</td>
</tr>
<tr>
<td>Location:</td>
</tr>
<tr>
<td>1st Place: Albay Education Region, Region V</td>
</tr>
<tr>
<td>2nd Place: Albay Education Region, Region V</td>
</tr>
<tr>
<td>3rd Place: Ateneo de Zamboanga, Region X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bracket II: High School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Champions:</td>
</tr>
<tr>
<td>Philippine Science High School - Bicol Campus, Region V</td>
</tr>
<tr>
<td>2nd Place: Nipa Polytechnic High School, National Capital Region</td>
</tr>
<tr>
<td>3rd Place: Philippine Science High School – Central Mindanao University, Region X</td>
</tr>
</tbody>
</table>

Top scorers during the PSO National Eliminations held simultaneously in 11 states nationwide were:

- Bracket I: David Laeutan of The Learning Tree Child Growth Center, Inc.
- Bracket II: Joshua Lopez of Philippine Science High School - Bicol Campus

The NSCM was implemented by the Philippine Society of Youth Science Clubs, Inc. (PSYSC), with the SEI-DOST as its cooperating agency.

2008 Summer Youth Science Camp

The Summer Science Camp was conceptualized as a resource to provide a need for activities that will promote interest in science technology and environment among elementary and high school students. It is designed to provide fun and interaction among students to occupy their time in summer while learning some science concepts particularly those that concern the environment. Last year’s science camp was held on the Philippine Science & Technology Center, Tagbilaran District, Davao City on May 22-25, 2008.

With the theme “Space Technology Education, A Tool for Agro-forest and Watershed Development,” the camp focused on the space technology and one of its important and environmentally relevant application, the use of global positioning system (GPS) and geographic information system (GIS) in agro-forest and watershed development. Conducted in partnership with RECORD Foundation, Inc., the science youth camp was attended by 72 participants from different schools in Davao City and nearby provinces.
With a predominantly English-speaking, highly educated, easily trainable, and skilled workforce, the Philippines enjoys significant comparative advantages in ICT. For this reason, SEI-DOST is giving its full support to government investments in education such as the computerization of all public schools and the adoption of e-learning in urban areas, which are scheduled to be completed by 2010.

Leveraging and harnessing the tools of ICT for education and development can result in widened access to knowledge and increase in opportunities and incomes. Clearly, measures that enable greater ICT integration in the earliest educational stage possible need to be intensified if the government is to meet its 2009 objectives of fostering lifelong learning skills among students and adult learners. The Information and Communications Technology Plan is nearing the end of its Phase II, the implementation stage (2002-2008) and is about to be followed by Phase III, the Evaluation stage.

SEI-DOST, along with the concerned agencies and cooperative partners, is confident of having significantly contributed to the development of physical infrastructure and technical support necessary to make ICT accessible and useful to students, teachers, administrators, and support staff in order to improve the state of science education in the country.
## DISTRIBUTION OF FY 2008 DOST-SEI EXPENDITURES

By S&T Activity, Source of Funds and Expense Classification  
(Amount in Thousand Pesos)

<table>
<thead>
<tr>
<th>SAT ACTIVITY</th>
<th>TOTAL EXPENDITURES</th>
<th>EXPENDITURES BY SOURCE OF FUND</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total (Regular + Other Sources)</td>
<td>Regular Appropriation (GAA)</td>
</tr>
<tr>
<td></td>
<td>PS (a)</td>
<td>MOOE (b)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>669,340</td>
<td>16,869</td>
</tr>
<tr>
<td>Researches/Studies/Surveys</td>
<td>2,709</td>
<td>-</td>
</tr>
<tr>
<td>Technology/Delivery</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S&amp;T Services (a+b)</td>
<td>12,603</td>
<td>2,487</td>
</tr>
<tr>
<td>• Information System</td>
<td>458</td>
<td>2,487</td>
</tr>
<tr>
<td>• Technical Services and Science Promotion</td>
<td>12,145</td>
<td>458</td>
</tr>
<tr>
<td>S&amp;T Innovation, Science Education Capacity Building and Development and Training</td>
<td>10,086</td>
<td>1,637</td>
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<tr>
<td>S&amp;T Scholarship Program</td>
<td>602,090</td>
<td>2,980</td>
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<tr>
<td>General Administration and Support Services</td>
<td>10,852</td>
<td>10,675</td>
</tr>
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</table>

### MAJOR EXPENDITURES BY EXPENSE CLASS PER REGULAR APPROPRIATIONS

FY 2008 GAA  
(Amount in Thousand Pesos)

- **PS**: 16,563 thousand pesos (4.03%)
- **MOOE**: 394,334 thousand pesos (95.84%)
- **CO**: 546 thousand pesos (0.13%)

**By Expense Class**
- **Researches/Studies/Surveys**
- **S&T Services**
- **S&T Innovations, Science Education Capacity Building and Development and Training**
- **S&T Scholarships**
- **General Administration and Support Services**
logical framework

**SOCIETAL GOAL**
Sustainable Economic Growth Towards Poverty Reduction

**SECTORAL GOAL**
Sustainable Economic Growth Towards Poverty Reduction

**ORGANIZATIONAL OUTCOMES**
Sustainable Economic Growth Towards Poverty Reduction

**MAJOR FINAL OUTPUTS**
- Administration of S&T Scholarship Programs
- Innovations, Research, Promotion and Development of Science Education and Culture Programs

**PERFORMANCE INDICATORS**
- Number of scholars supported
  - Undergraduate Program
  - Master’s Program
- Number of scholars tracked/monitored/deployed
- 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

- **Office of the Director**
- **Office of the Deputy Director**

**SUPPORT DIVISION**
- Finance & Administrative Division

**TECHNICAL DIVISIONS**
- Scholarship & Training Division
- Science & Technology Education Division
- S&T Manpower Assessment Division