

EXPANDING OUR REACH

ANNUAL REPORT 2014

FOR INCLUSIVE GROWTH



Science Education Institute
DEPARTMENT OF SCIENCE AND TECHNOLOGY

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Science that empowers lives.

This theme reiterates the indisputable fact that science is the foundation of tomorrow’s technologies, jobs and well-being, and its learning should therefore benefit not just students but society in general.

While the Science Education Institute of the Department of Science and Technology operates out of the fundamental need to provide educational opportunities to young people and help gain for the country a critical mass of S&T professionals, deepening the relationship between science and society and reinforcing public confidence in science is embedded in its principles.

DOST-SEI facilitates an informed engagement among its various stakeholders – from the professionals in the academe and industry to community leaders and citizens in general. Its efforts to generate interest in, and attitudes towards, science and technology must go beyond solely educational and need to be framed and understood in a wider social, cultural and political context.

This socially inclusive approach is necessary to achieve what is often called “scientific and technological literacy.” Only within this condition can the knowledge and understanding of science among the youth translate into effective craft, and scientific values strengthen our collective power to move our country forward.

Message from the SECRETARY

More than a quarter century of service to the Filipino people is truly an exemplary feat, and I congratulate the Science Education Institute (DOST-SEI) for attaining this significant milestone.

The DOST, through the SEI is proud to be able to give our youth access to quality education in the leading public and private institutions nationwide. Improvements in science, technology, engineering and mathematics education across all levels are critical to preparing our future scientists with the skills they need to meet the demands of a growing economy.

Driven by its mandate, the Institute has succeeded in bringing forth a tremendous increase in the number of applicants to its scholarship programs. Our call for more scientists and engineers is being heeded by our youth. We are optimistic that this new breed of future scientists and engineers will help us in achieving a smarter Philippines through the creation of S&T based solutions, by giving birth to innovations that will make our country become globally competitive and at the same time, improve the lives of the Filipino people.

For our S&T scholars and students, now is the best time to become scientists and engineers. Through enrichment programs, advanced teacher training methods, technology adoption in schools, industry partnerships, research and competitions, and numerous activities highlighted in the 2014 Annual Report, the DOST-SEI promises to provide an exciting and engaging educational environment.

Mabuhay!



MARIO G. MONTEJO
Secretary
Department of Science and Technology



Message from the OIC, OFFICE OF THE DIRECTOR



For economic growth to be truly inclusive, our country needs a new economic vision focusing on the role of knowledge as basis for the transformation of science and technology into goods and services that will benefit all sectors of our society.

To achieve a science-led development of this magnitude, the vision of this modern economy must be articulated at the highest level of government. The aim should be to deepen the relationship between science and society, and reinforce public understanding and confidence in science.

I am pleased to observe that the DOST-SEI is on the right path towards an informed engagement of citizens on matters of research and innovation by promoting science education, by encouraging students to participate in its scholarship programs, by making the STEM courses widely accessible to the public, and by developing research and innovation programs that meet the concerns of students, parents, educators, policy makers and civil society as a whole.

Clearly, attracting and retaining human resources with the willingness to contribute their skills, time and effort for scientific causes is an important pillar of our socio-economic development strategy. The challenge is to enhance the traditional ways of conducting science and to think about new opportunities for innovation and insights and to create new and exciting links between the various scientific disciplines. These approaches are just some of the motivational drivers expected to contribute to greater individual and community engagements in science.

For another year of notable accomplishments, and for continually coming up with more innovative approaches to science and mathematics education, the Science Education Institute has clearly played an increasingly important role in helping us realize the inclusive growth that we envision for our country.

FORTUNATO T. DE LA PEÑA
Undersecretary for S&T Services, DOST
Officer-In-Charge, Office of the Director, SEI
(January-March 2014)

Message from the DIRECTOR



The year in review marks several exceptional successes for Science Education Institute particularly in the provision of scholarship to undergraduate students.

After conducting an intensified information campaign among the various municipalities in the country in 2014, we saw the number of scholarship applicants reach unprecedented levels, 21 percent higher than the numbers we attained in 2013.

These applicants will eventually add greatly to the base of science and technology workers that we have amassed already. Over the past 20 years, we are pleased to share the fact that we have doubled the number of S&T practitioners in the country, strengthening our collective power to move our country forward to economic progress.

Going beyond mere numbers, we are identifying and prioritizing fields that are most in need of S&T workers, and these findings are being used to influence the way we carry out our scholarship, innovation and advocacy programs.

All these efforts are fueled by the drive for inclusive growth, to fight poverty and empower the poor and the marginalized segments of society. Along with providing access to science education and increasing our scholar base, we have efforts to sustain the development of Filipino scientists, engineers and innovators, and to expand our network of state colleges, universities and public/private sector institutions to develop and channel human resources into priority areas for economic development.

We continually conduct a review of the main factors that contribute to human resources development, from the educational process covering secondary schools and universities to research institutions and industries employing R&D personnel. We likewise monitor S&T resources stock and mobility in the country through our continuing research studies.

We have identified and initiated specific actions and policy measures that make a substantive contribution towards increasing the number of research personnel and science professionals in the fields in which they are most needed.

The numbers that we continue to generate among our scholarship applicants alone clearly shows that momentum is building as we aggressively engage the interests of our young population in the fields of science, technology, engineering and mathematics.

Much still needs to be done in order for the Philippines to step up to the level of competition presented by the ASEAN integration. Learning science in the classroom should be just the first step in a lifelong endeavor to bring science and scientific thinking into everyone's lives.

JOSETTE T. BIYO
Director

Highlights

Intensifying scholarship programs

Scholars grow in numbers. The number of students supported by the S&T Undergraduate Scholarship program continues to grow, totaling 12,117 in 2014, a 21-percent increase from 2013.

Implementing Rules and Regulation (IRR) of RA 10612 crafted. In 2014, DOST-SEI convened an Inter-Agency-Technical Working Committee (IA-TWC) to draft the Implementing Rules and Regulations that would govern the execution of RA 10612 or the Fast-Track Science and Technology Scholarship Act of 2013. On August 4, 2014, the final IRR gained the signatures of the Secretaries of the Department of Science and Technology (DOST) and the Department of Education (DepEd). On October 18, 2014, 500 students emerged as the first batch of qualifiers for RA 10612.

DOST-SEI Scholars visit Japan. Six (6) DOST-SEI graduate scholars in the field of Agriculture participated in the 10th Batch of the program dubbed Participation in the Japan-East Asia Network of Exchange for Students and Youths (JENESYS 2.0) on May 12-20, 2014. The JENESYS 2.0 is a youth exchange program between Japan and ASEAN Member States with the aim of promoting global understanding of Japanese values as well as revitalizing the Japanese economy and increasing its foreign visitors.

Science Education Consortium expands. To make the Philippine higher education institutions more competitive in light of the ASEAN integration, the Accelerated Science and Technology Human Resource Development Program – Science Education Consortium (ASTHRDP-SEC) was expanded to include other universities in Luzon offering science and mathematics education.

ASTHRDP holds 3rd National Scholars’ Conference. It was successfully conducted last February 27-28, 2014 at the Traders Hotel, Manila with the theme “Harnessing S&T Human Resources for ASEAN Integration.” The conference was attended by 290 scholars and mentors from NSC universities all over the country. The ASTHRDP supported a total of 1,198 MS and 235 PhD scholars and produced 215 MS and 17 PhD graduates in 2014.

ERDT holds 3rd Congress. The ERDT Program, which supported 657 MS and 129 PhD scholars, and produced 84 MS and 5 PhD graduates in 2014, conducted the 3rd ERDT Congress on July 25, 2014 during the celebration of the DOST National Science and Technology Week (NSTW) at the SMX Convention Center, Pasay City.

“In Touch with Excellence” honors outstanding scholars. Held at the Midas Hotel last July 25, 2014, the ceremony was attended by 194 scholar-graduates and their parents/guardians, partner-institutions, and DOST-SEI officials and staff.

Expanding the reach of S&T

Push 4 Science Program bears positive results. SEI’s intensified promotional activities resulted in a total of 43,097 applications to the 2015 S&T Undergraduate Scholarships. This is the highest ever recorded in the history of the implementation of the scholarship program. In 2014, the campaign directly reached 15 out of the 71 target municipalities.

Science Explorer accelerates service pace. The country’s first mobile science learning facility, the Science Explorer bus, improved its pace in bringing fun science learning to kids in 2014 as it increased by 25% the number of students served from 3,081 in 2013 to 3,842.

Students display skills in various robotics competitions.

In *Tagisang Robotics*, Pitogo High School students bested 34 teams to dominate the 2014 competition. The alliance of Pitogo High School, Grace Christian College, and Rizal High School was also named as Best Alliance.

In 2014, the Philippine Robotics Olympiad (PRO) drew the participation of 55 teams from elementary level and 81 teams in the secondary level for the preliminary judging held on September 10 and 11, 2014. On September 12, 2014, 25 teams in the elementary and 40 teams in the secondary level qualified in the final judging. In the Regular Category, the top three team winners in the elementary and high school levels competed in the World Robot Olympiad (WRO) held on November 21-23, 2014, in Sochi, Russia.

The fun and educational competition called the FIRST Lego League (FLL) drew the participation of 13 teams from different public and private elementary and high schools on February 22, 2014 at the Quezon City Science Interactive Center, Bago Bantay, Quezon City.

Ocean Study, Geology, and Community Survey Highlight Climate Science Camp. Climate science camp focused on studying the ocean, the river system, and the community in the *Innovation and Climate Science Camp* held in Puerto Galera on April 1-9, 2014.

World Space Week marks 15th year of celebration. In 2014, DOST-SEI marked with the rest of the world the 15th World Space Week celebration. With the theme “Space: Guiding Your Way,” the 15th World Space Week focused on the benefits of satellite navigation systems and other space science applications to society.

Math students demonstrate skills in Olympiads. Around 213 high school students took part in the oldest & the most prestigious national mathematics competition among secondary students in the country, the Philippine Mathematical Olympiad. Winners and selected finalists were trained and screened for the final line up of Philippine delegates to the International Mathematical Olympiad (IMO).

BPI Foundation continues incentive program. The joint project of DOST and the Bank of the Philippines Islands (BPI) Foundation, the BPI-DOST Best Project of the Year Awards, continues to provide incentives to students who excel in the fields of Biology, Mathematics, Chemistry, Physics, Engineering and Computer Science research. Twenty-nine (29) entries were submitted by accredited schools in 2014, from which the finalists and top three awardees emerged.

Students reap awards in international Math competitions. Fifty-two (52) Filipino students from different schools received Certificates of High Distinction in the Australian Mathematics Competition. Meanwhile, six students received honors in the 55th International Mathematics Olympiad (IMO), the largest, most prestigious and most difficult mathematics competition in the world.

YES Awardees honored. DOST-SEI honored 468 elementary and high school students who have won gold, silver and bronze in international science and mathematics competitions, topping the previous high of 447 in 2013.

Strengthening capabilities in S&T Education

Enrichment Program goes into remote areas. A total of 1,359 fourth year students from 78 municipalities without DOST-SEI scholars participated in the mentoring program that was implemented from July to September 2014 in cooperation with the DOST Regional Offices in Regions 1, 2, 4A, 4B, 8, 11 and Cordillera Autonomous Region (CAR).

Project MOVE ON continues successful run. Aptitude tests and mentoring sessions were given to students of the 12 beneficiary schools under this project which marked the second year of its three-year implementation. MOVE ON is an extension of the recently completed three-year project called the “Mindanao Opportunities for Vitalized Education and Upgrading of Science (MOVE UPS)”.

Competency building programs for science and math teachers held. A Teacher Training Program on Innovative and Strategic STEM Education was held at the PSHS Main Campus in Quezon City on July 26, 2014 to improve the creativity and teaching-capability among teachers on Science, Technology, Engineering and Mathematic (STEM) education. Meanwhile, a series of training sessions in September and November 2014 aimed to enhance the

capability of elementary teachers on the use of problem solving in teaching mathematics. A total of 250 mathematics teachers in the elementary level were trained.

“Publish or Perish” encourages research publication. A three-day training entitled “Publish or Perish” was held on March 10-13, 2014 in San Mateo, Rizal with the aim of enhancing the capacity of faculty members in packaging research papers for publication and updating them on the requirements of various local and international refereed journals.

Australian Awards Fellowship aims to strengthen STEM education. The program is a customized training for Philippine Science High School Campus Directors and DOST-SEI staff to address issues on managing current educational reforms in the Philippines, and strengthen STEM education in response to the shift to the new K to 12 curriculum. It was held at the Queensland University of Technology (QUT) in Brisbane, Australia.

Mathematics Courseware completed. Grades 2-6 pupils and Mathematics teachers of 20 public elementary schools became the first among the beneficiaries of the digitized learning materials designed to improve the learning and performance of students as well as enhance the content knowledge, pedagogical capacity and critical thinking skills of the teachers in teaching mathematics.

2nd Search for Innovative Practices in Managing Large Classes conducted. Two winning Project teams were identified, one from Surigao City National High School, Surigao del Norte and the other from Tabaco National High School, Albay.

Monitoring S&T human resources continues. A technical report was prepared and published in 2014 regarding a benchmark study estimating the number of S&T human resources in various professions. A study detailing the extent of S&T skills migration was also updated in 2014 covering the period 2005-2013. Meanwhile, Tracer Forms were distributed to various DOST attached agencies, including Regional Offices in cooperation with the Scholarship Project Staff of various regional DOST offices to track the DOST-SEI scholar graduates. A total of 496 accomplished forms were collected, reviewed and encoded.

Upgrading our systems

Information Network enhanced. DOST-SEI invested in the enhancement of its network infrastructure and of the IT skills of its workforce to effectively harness ICT in its operations.

Media-based strategies promote S&T initiatives. Several media-based strategies were implemented in 2014 as part of DOST-SEI’s strategic communications plan to promote youth science programs, enhance the interest of students taking up STEM courses and promote S&T to the general public.

Our country's path to building the

human capital for science and technology has reached the expanse of the country's regions and municipalities. In a 20-year span from 1990 to 2010, we have seen an increase in the number of S&T workers, and this can only lead to economic betterment as the knowledge gained through research and development cascades to enhanced performance of our industries.

DEVELOPING HUMAN RESOURCES
IN SCIENCE AND TECHNOLOGY

This positive outcome only raises our level of commitment at DOST-SEI to continually strengthen scholarship programs, develop activities that enhance the scientific capacity of our institutions, and contribute to the promotion of scientific awareness, empowerment and excellence in our society.



UNDERGRADUATE
S&T SCHOLARSHIP
PROGRAMS GAIN
MORE GROUND.

Number of scholars continues
to grow.

The S&T Undergraduate Scholarship remains to be one of the most popular means for talented students to receive financial assistance to pursue priority courses in science and technology. Spread over the 17 geographical regions of the country, the scholars supported by DOST-SEI totaled 12,117 in 2014, a 21-percent increase from 2013 (See Table 1).

As in previous years, Region IV-A (CALABARZON) had the highest number of scholars at 1,863 or 15.38 percent of the total number. This was followed by the National Capital Region (NCR) and Region VII (Central Visayas Region) with 1,572 (12.97 percent) and 1,356 (11.19 percent) scholars, respectively.

TABLE 1: Regional Distribution of DOST-SEI Undergraduate Scholars.			
Region	Status		Total
	Continuing	Graduated	
CAR	331	39	370
I	469	54	523
II	364	39	403
III	997	117	1,114
IV-A	1,683	180	1,863
IV-B	320	33	353
V	887	144	1,031
VI	930	80	1,010
VII	1,220	136	1,356
VIII	540	79	619
IX	246	13	259
X	486	68	554
XI	356	31	387
XII	249	15	264
ARMM	111	4	115
CARAGA	298	26	324
NCR	1,374	198	1,572
Total	10,861	1,256	12,117

Meanwhile, the Autonomous Region of Muslim Mindanao (ARMM) had the lowest number of scholars at 115 or about one percent of the total number. Region IX (Western Mindanao) and Region XII (Central Mindanao Region) had 259 (2.14 percent) and 264 (2.18 percent) scholars, respectively.

Of these, 1,256 or 10.37 percent graduated in March and October 2014 while 10,861 or 89.63 percent continued with their studies.

At the undergraduate level, 20.06% (252) of the 1,256 scholar-graduates were awarded the top academic honors in their respective institutions. Twelve graduated *Summa cum laude*, 52 *Magna cum laude*, and 179 *Cum laude*, while six garnered honorable mention, three with academic awards and one With Honors (See Table 2).

Three scholars who completed their degrees earlier than the prescribed period of their courses were awarded with an incentive equivalent to their monthly stipends for the remaining semester/s of their courses. Furthermore, the period of service obligation that will be required of them is equivalent only to the period it took them to complete their respective courses.

TABLE 2: Distribution of 2014 Scholar-Graduates by Scholarship Program and Academic Award

Scholarship Program	No. of Graduates	Academic Award						Total No. of Graduates with Honors	% of Graduates with Honors to Total No. of Graduates	Completed earlier than the prescribed period
		<i>Summa cum laude</i>	<i>Magna cum laude</i>	<i>Cum laude</i>	Honorable Mention	With Academic Awards	With Honors			
Undergraduate										
RA 7687	1,054	5	31	145	4	2	1	188	17.84	2
Merit	202	7	21	34	2	-	-	64	31.68	1
Total	1,256	12	52	179	6	3	1	252	20.06	3
Graduate										
Science Education										
MS	6	-	-	-	-	-	-	-	-	-
PhD	7	-	-	-	-	-	-	-	-	-
Total	13	-	-	-	-	-	-	-	-	-
ASTHRDP										
MS	215	-	1	6	-	-	-	7	3.26	-
PhD	17	-	-	-	-	-	-	-	-	-
Total	232	-	1	6	-	-	-	7	3.02	-
ERDT										
MS	84	-	-	-	-	-	-	-	-	-
PhD	5	-	-	-	-	-	-	-	-	-
Total	89	-	-	-	-	-	-	-	-	-
All Programs										
BS	1,256	12	52	179	6	3	1	252	20.06	3
MS	305	-	1	6	-	-	-	7	2.30	-
PhD	29	-	-	-	-	-	-	-	-	-

SEI-Regional S&T Scholarship
Staff reoriented.

Held in Laoag City, Ilocos Norte on July 16-17, 2014, this annual activity of the Institute is designed to ensure that all the SEI Scholarship Staff in various regions share common understanding and knowledge of current and new developments in policies and standard operating procedures in the implementation of S&T scholarship programs.

In attendance were 33 Scholarship Staff from various regions nationwide and seven SEI staff who served as resource speakers, facilitators and secretariat. Topics discussed included: 1) Conduct of the 2015 S&T Scholarship Examination; 2) Evaluation of Scholarship Application Forms; 3) Financial Matters; 4) Update and try-out of the web-based Scholarship Information System; and 9) Backgrounder on the RA 10612 otherwise known as “Fast-Track S&T Scholarship Act of 2013”.



The participants also shared their best practices in implementing the scholarship programs in their respective regions.

Mr. Larzon Fortunado of DOST MIMAROPA raises scholarship issues during the open forum.



(L-R) DepEd Secretary Armin Luistro, DOST Asst. Secretary Oswaldo Santos and SEI Director Josette T. Biyo ink the Implementing Rules and Regulations of RA 10612.

Implementing Rules and Regulations (IRR) of RA 10612 crafted.

In 2014, DOST-SEI convened an Inter-Agency-Technical Working Committee (IA-TWC) to draft the Implementing Rules and Regulations that would govern the RA 10612 or the Fast-Tracked Science and Technology Scholarship Act of 2013. This new law aims to beef up the country's pool of S&T professionals by fast-tracking the creation of more science, technology and engineering graduates through provision of scholarships to deserving students in their third year of undergraduate study, based on their competitiveness and merit. Scholars are required to teach in sciences, technology, engineering, agri-fisheries, and mathematics (STEAM) subjects in the K-12 Program in public and private high schools after graduation.

The committee held a series of public consultations in Luzon, Visayas, Mindanao and the National Capital Region (NCR), with representatives from various stakeholders such as DepEd, CHED, PRC, CSC, NEDA, PIA, DOST-ROs/PSTC, SUCs and Scholars' Association.

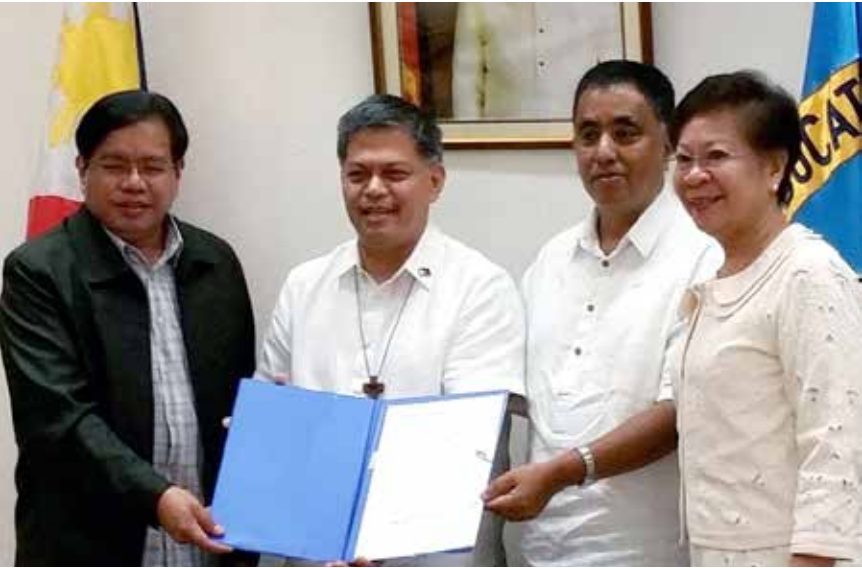
In Mindanao, the event was held on March 17, 2014 at the Hotel Elena, Davao City with 57 participants from Regions IX, X, XI, XII, ARMM and CARAGA. In Visayas, it was held on March 18, 2014 at Iloilo Midtown Hotel, Iloilo City with 28 participants coming from

Regions VI, VII and VIII. In NCR and Southern Luzon Region, the event was held at the Quezon City Science High School with 70 participants from Regions NCR, IV-A, IV-B and V while in Northern Luzon, it was held at San Fernando, La Union with 100 participants coming from Regions I, II, III and CAR.

At the end of the sessions, a two-day writeshop to produce the final form of the IRR was conducted on July 2-3, 2014 at the Estancia Resort Hotel in Tagaytay City. On August 4, 2014, the Secretaries of the Department of Science and Technology (DOST) and the Department of Education (DepEd) affixed their signatures to the IRR at the OSEC Conference Room, Department of Education, Meralco Ave., Pasig City.

DOST Assistant Secretary Oswaldo Santos represented the DOST Secretary. Also present were former AGHAM Partylist Representative Angelo Palmones, DOST-SEI Director Josette T. Biyo, S&T Scholarship Division Chief Alicia L. Asuncion and STSD Supervising SRS Ma. Daisy A. Demoni.

Under the approved Implementing Rules and Regulations of the Fast Tracked Science and Technology Scholarship Act of 2013, scholarships shall be made available to qualified third year college students enrolled in priority S&T courses and willing to teach in secondary schools after graduation. To avail of the scholarship, applicants must qualify in the Junior Level Science Scholarships (JLSS) Examination.



(Right) Former AGHAM Party List Representative Angelo Palmones, DepEd Secretary Armin Luistro, DOST Asst. Secretary Oswaldo Santos and SEI Director Josette T. Biyo pose for a group picture with the signed Implementing Rules and Regulations of RA 10612.

First batch of qualifiers of RA 10612 announced.

Following the test development of the Junior Level Science Scholarships (JLSS) Examination required to qualify for the RA 10612 scholarship, a pre-testing of the test items was conducted on August 27-30, 2014 in 34 institutions nationwide involving 1,248 DOST-SEI junior scholars from various S&T fields.

Then on October 18, 2014, a total of 1,743 hopeful third year college students took the nationwide qualifying examinations in 35 test centers nationwide. Only 500 students emerged as qualifiers of the first JLSS for RA 10612. Their names were announced in leading newspapers and posted on DOST-SEI's websites.



(Above) Third year S&T college students taking the qualifying examination for the 2014 Junior Level Science Scholarship in Tagbilaran City, Bohol on October 18, 2014.



Domain Expert and Test Item Writers critiquing the test items they developed during the Writeshop held at Sunrise Hotel in Tagaytay City last July 4-5, 2014.

Intensified information dissemination bears positive results.

In support of the DOST's vision of having at least one scholar in every municipality by 2016, the Institute actively sought a dialogue with key officials of local government units specifically in municipalities that have been consistently failing to have examinees over the past few years. In 2014, there were 212 municipalities that had no scholars, and 64 of these had consistently no examinees during the past three years.

A meeting took place with key officials of LGU-Ilocos Norte last July 16, 2014. In attendance from the DOST were DOST Undersecretary for S&T Services Fortunato T. dela Peña, SEI Director Josette T. Biyo, S&T Scholarship Division Chief Alicia L. Asuncion, DOST I Regional Director

Armando Q. Ganal and the DOST Ilocos Norte Provincial Director. On the other hand, in attendance from LGU-Ilocos Norte were Hon. Vice Governor Eugene Angelo M. Barba, the Provincial Board Members and the Mayors of Adams, Banayoyo and Dumalneg municipalities in the region consistently without examinees in the scholarship examinations.

After the DOST-SEI presented the scholarship programs being implemented by the Institute, all local officials concurred to support the DOST-SEI's scholarship programs and pledged to extend the necessary assistance to the qualified 4th year high school students who could file their applications; and ensure that they would report to the nearest test centers on the examination day to take the qualifying examination.

The following day, July 17, a meeting with the local officials and representatives from various high schools was conducted in Burgos, Ilocos Sur, which is another municipality consistently having no scholarship examinee. To ensure that the municipality will have examinees, a test center was established in the adjacent municipality of Sta. Maria. Two of its high schools were also beneficiaries of the enrichment program of the Institute. Similar activities were also conducted by the DOST Regional Offices.



SEI Director Josette T. Biyo presenting the DOST-SEI's scholarship and other support programs to the key officials of LGU-Burgos Ilocos Sur on July 17, 2014.

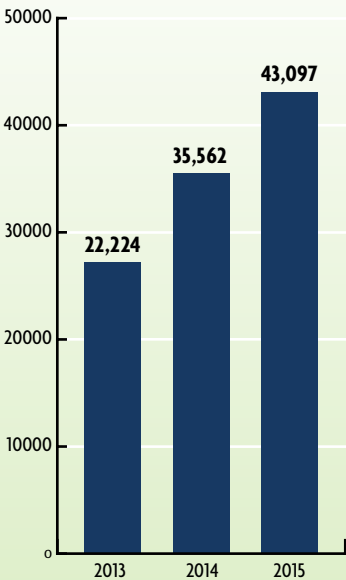


FIGURE 1: Number of DOST-SEI S&T Scholarship Applicants (2013-2015)

The applications to the 2015 S&T Undergraduate Scholarships administered by DOST-SEI totaled 43,097 this is higher by 21% compared to the previous year's number. This is the highest ever recorded in the history of the implementation of the scholarship program.

The achievement was attributed to the intensive promotional activities conducted by SEI particularly the Push 4 Science Program which aimed to reach the municipalities consistently having no examinees for the past three years. Announcements were also published in newspapers, brochures and SEI websites, while tarpaulins were hung in strategic areas all over the country (See Figure 1).

The Institute also requested the DOST Regional Offices, Offices of the Senate and House of Representatives, Department of Education, Land Bank of the Philippines, offices of the governors and mayors of municipalities/cities consistently without

examinees/qualifiers in the S&T Scholarship Examination for the last three years to reproduce and disseminate the copy of the Information Sheet, brochure and poster to their constituents who were qualified to take the examination. Qualifiers must be members of the graduating class of a DOST-SEI identified or DepEd-recognized science high school, or must belong to the top five percent of their regular classes.

2015 S&T scholarship examinees exceed numbers.

The efforts rendered by the Institute and partner institutions finally bore fruit as this year's examinees reached 40,903, the highest number ever recorded in the history of the implementation of the scholarship program (See Figure 2).

To complement the unprecedented increase in the number of applicants and to reach the qualified examinees from far-flung municipalities, a total of 180 test centers were established all over the country. This is 21-percent higher than the number of test centers established in 2013.

An orientation of examiners and proctors was conducted last September 15, 2014 at the William G. Padolina Hall, SEI. This was done to ensure standardized administration of the 2015 Undergraduate S&T Scholarship Examination. The activity was attended by employees from various DOST agencies

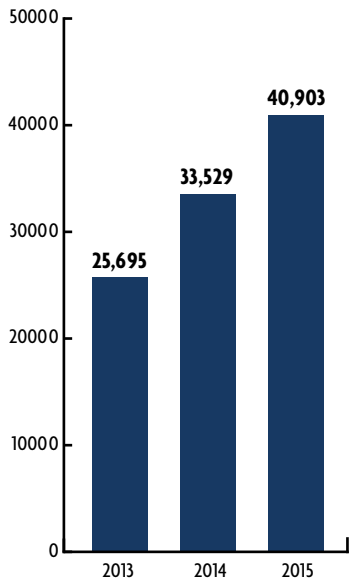


FIGURE 2: Number of DOST-SEI S&T Scholarship Examinees (2013-2015)

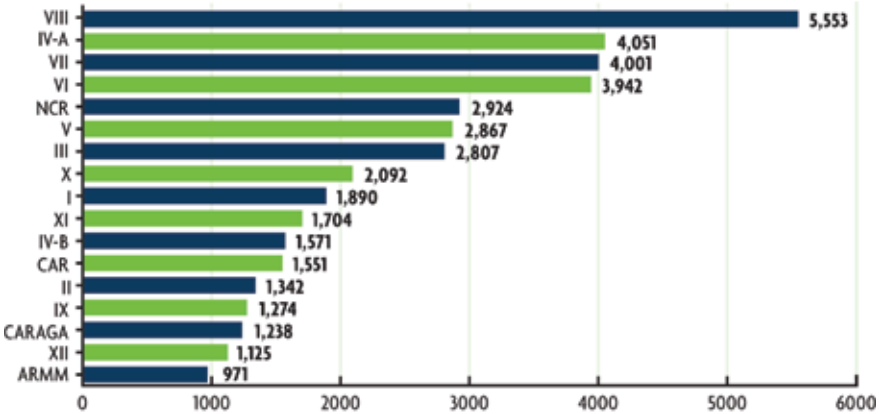


FIGURE 3: Regional Distribution of 2015 S&T Undergraduate Scholarship Examinees

who served as examiners and proctors for the said examination. Dr. Milagros Ibe, Test Consultant and Ms. Alicia L. Asuncion, STSD Chief served as Resource Persons.

The examination consists of 200 items answered through a four-option multiple-choice format. The 200 items are grouped into eight subtests which are separately timed per subtest. Four subtests are designed to assess the examinees' reasoning, sensorimotor, inspection and imagery, while four other subtests measure the cognitive abilities: Scientific, Mechanical-Technical, Quantitative and Linguistic skills.

The nationwide examination was held on September 21, 2014 (See Figure 3).

Region VIII had the highest number of examinees registered at 5,553 or 14 percent of the total examinees. This was followed by Region IV-A with 4,051 examinees, Region VII with 4,001 examinees and Region VI with 3,942 examinees. Meanwhile, the Autonomous Region for Muslim Mindanao (ARMM) had the lowest number of examinees at 971. This was followed closely by Region XII with 1,125 examinees and CARAGA Region with 1,238 examinees.

The total municipalities with DOST-SEI scholarship examinees also inched-up from 1,478 in 2014 to 1,552 this year.

Table 3 shows the comparative analysis of the total number of municipalities and congressional districts without municipalities (CDs) by region and the number of municipalities with examinees in the 2015 S&T Scholarship Examination.

TABLE 3: Number of Municipalities and Congressional Districts without Municipalities with Examinees in the 2015 S&T Scholarship Examination

Region	No. of Municipalities and Congressional Districts without Municipality (CDs)	No. of Municipalities and CDs with Examinees	Percentage
1	125	117	93.60
2	93	89	95.70
3	130	121	93.08
4A	143	140	97.90
4B	73	67	91.78
5	114	109	95.61
6	133	132	99.25
7	133	132	99.25
8	143	143	100.00
9	73	73	100.00
10	94	87	92.55
11	51	48	94.12
12	50	43	86.00
CARAGA	73	68	93.15
ARMM	118	75	63.56
CAR	77	76	98.70
NCR	32	32	100.00
TOTAL	1655	1552	93.78



Qualified fourth year high school students taking the S&T Scholarship Examination at Naga City, Camarines Sur.

All municipalities and CDs in Regions VIII, IX and NCR had examinees. Only one municipality in Regions VI, VII and CAR had no representation in the scholarship examination. On the other hand, majority (63.56 percent) of the municipalities in the ARMM had examinees.

The Overseas Workers Welfare Administration (OWWA) was once again a rider in the S&T Scholarship Examination for the selection of its 2015 Education for Development Scholarship Program (EDSP) and Congressional Migrant Workers Scholarship Program (CMWSP) scholars. In 2014, a total of 4,834 fourth year high school students took the examination, with 318 based in the Kingdoms of Saudi Arabia and Bahrain.

2014 S&T scholars presented to the Secretary.

The “one scholar per municipality by 2016” vision was reiterated during the annual rite called the Presentation of Scholars to the DOST Secretary. Held on April 30, 2014 at

the DOST Executive Lounge, the event was attended by 314 S&T qualifiers from the National Capital Region (NCR), together with their parents, DOST officials and SEI staff.

DOST Secretary Mario G. Montejo, represented by DOST Undersecretary Fortunato T. de la Peña, encouraged the scholars to pursue post-graduate degrees upon completion of their undergraduate studies, and to consider their scholarship as a proof of trust that is expected to be honored with responsibility and accountability.

Guest Speaker was Dr. Raphael A. Guerrero, a 1993 DOST-SEI Merit scholar and recipient of the DOST-PCASTRD Scholarship for his Masters and Doctoral degrees. He was also named Outstanding Young Scientist for Physics in 2013 by the National Academy of Science and Technology (NAST).

In his message, Dr. Guerrero encouraged the scholars to have their PhDs at a young age and “venture into researches which could change the world.”

Orientation and signing of Scholarship Agreement.

The 2014 S&T Scholars and 2013 S&T Scholars for Sophomore College Students were oriented, together with their parents, on the terms and conditions of their scholarship program, based on the provisions outlined in the Scholarship Agreement. Those who were amenable with the terms and conditions signed the Scholarship Agreement to officially become DOST-SEI scholars.

Due to the large numbers, the qualifiers from NCR were grouped in batches and oriented on April 22-25 and April 28 at the SEI’s William G. Padolina Conference Room and Estrella F. Alabastro Multi-Purpose Room. Similar activity was also conducted by the DOST Regional Offices nationwide for the qualifiers in the regions.

Scholars undergo Science and Technology Learning Assistance Program (STLAP) .

In 2014, a total of 2,185 freshman RA 7687 scholars nationwide attended the Summer Orientation and Enrichment Program (SOEP). One of the components of the STLAP, the SOEP is a month-long program held in May for incoming RA 7687 freshman scholars designed to provide them a refresher course in four main areas – Basic English, College Mathematics, Physics and Psycho-Social Skills Development. The goal is to help scholars by levelling of their skills in the academic subjects and providing tips and ways to adjust to college life and ensure their academic success and their holistic growth.

The National Capital Region had the highest number of participants registered at 394 scholars. The SOEP was successfully conducted last May 5-30, 2014 at the University of the Philippines-Diliman and Technological University of the Philippines-Manila with 108 and 286 participants, respectively.

Pre-tests were given to the participants on the first day of the program as diagnostic tool to assess their initial knowledge in College Algebra, Trigonometry, Analytic Geometry, English and Physics. The same tests were given on the last day to determine the gains or the significance of the enrichment program. Other activities included lectures, exercises, board work and unit test on the said subjects during the month-long duration of the program.

Also included were psycho-social topics such as Coping with College Life; Stress Management; Time Management /Setting Priorities; and Learning Styles/Study Improvement Skills.

Scholars received a stipend of P4,000.00 each as well as Certificates of Completion. Also in the National Capital Region, 384 undergraduate scholars in the junior and senior years completed practical training in various government agencies and private companies as part of the DOST-SEI Summer Practical Training Program (SPTP).

The program requires scholars to undergo training for a minimum of six weeks within the months of April and May equivalent to 240 hours, with the goal of enriching the scholars’ practical experiences along their fields of specialization to prepare them better for future employment. Upon completion of the program, they were able to receive a stipend equivalent to two months.

DOST-SEI scholars visit Japan.

Six (6) DOST-SEI graduate scholars in the field of Agriculture participated in the 10th Batch of the program dubbed Participation in the Japan-East Asia Network of Exchange for Students and Youths (JENESYS 2.0) on May 12-20, 2014.



The Philippine delegation with JENESYS 2.0 participants from other Asian countries at the Tokyo University of Agriculture.

The JENESYS 2.0 is a youth exchange program between Japan and ASEAN Member States with the aim of promoting global understanding of Japanese values as well as revitalizing the Japanese economy and increasing its foreign visitors.



(Above) The Batch 2014 DOST-SEI scholars with the DOST-SEI Key Officials.

(Right) DOST Undersecretary for S&T Services delivering the DOST Secretary’s message before the 315 qualifiers.





(Above) A Japanese researcher shows to the participants how a mechanical transplanter operates.

(Topmost) Participants from the Philippines and Indonesia were assigned to live with the Shibaki Family during the home-stay activity.

The nine-day program includes visits to Japanese corporations and provincial areas to enhance understanding and appreciation of Japan’s strengths, values, local cultures, historical architectures, high-tech exhibitions, and other attractions. The delegates were also given the chance to interact with Japanese students and exchange insights on Japanese student life, activities and certain S&T courses in the campus.

The DOST-SEI delegates underwent pre-departure orientation on May 8 & 16, 2014. They joined other participants from Brunei, Indonesia and Malaysia. The 11th Batch for Science and Technology composed of 79 undergraduate and graduate DOST-SEI scholars from various S&T fields participated in the exchange program with students from Malaysia, India and Laos on May 19-27, 2014. The Philippine delegation was supervised by Ms. Ma. Daisy A. Demoni and Ms. Charilyn Joy M. Layus of the S&T Scholarship Division, SEI.

The program also includes the “homestay” wherein the students stayed with a Japanese family for two days to experience the Japanese way of life. It was capped off with a farewell cultural presentation by the students.

S&T GRADUATE SCHOLARSHIP PROGRAMS BOOST HIGHER EDUCATION.

The S&T Graduate Scholarship Programs include the Capacity Building Program in Science Education, Accelerated Science and Technology Human Resource Development Program (ASTHRDP) and Engineering Research and Development for Technology (ERDT) (*See Table 4*).

Capacity Building Program in Science Education.

This program intends to increase the number and improve the quality of S&T faculty members in Teacher Education Institutions so they can be in better capacity to mold the young people to be the future leaders in science and technology. Table 4 shows that in 2014, SEI supported a total of 57 MS and 102 PhD scholars, and produced six MS and seven PhD graduates.

Expansion and renaming of Science Education Consortium. To make the Philippine higher education institutions more competitive in light of the ASEAN integration, the Accelerated Science and Technology Human Resource Development Program – Science Education Consortium (ASTHRDP-SEC) was expanded to include other universities in Luzon offering science and mathematics education.

Established in 2007, the Science Education Consortium formerly included only four universities in the Visayas and Mindanao, namely: West Visayas State University in Iloilo City, University of San Carlos in Cebu City, Western Mindanao State University in Zamboanga City and Mindanao State University in Marawi City.

With its expansion, the consortium now includes Ateneo de Manila University, Bicol University, Central Luzon State University, De La Salle University, Mariano Marcos State University and Philippine Normal University.

On July 25, 2014, the Memorandum of Understanding (MOU) for the consortium’s expansion and renaming into the National Consortium in Graduate Science and Mathematics Education (NCGSME) in Luzon was signed between the key officials of DOST-SEI, the current members in Visayas and Mindanao and the new members in Luzon at the Midas Hotel, Pasay City.



(Right) The Presidents of the member-universities of the Science Education Consortium signing the Memorandum of Understanding.

TABLE 4. Distribution of Graduate S&T Scholars by Graduate Scholarship Program, Degree Level and Status				
Program	Degree Level	Status		Total
		Continuing	Graduated	
Science Education	MS	51	6	57
	PHD	95	7	102
ASTHRDP	MS	983	215	1,198
	PHD	218	17	235
SEI *	MS	920	185	1,105
	PHD	216	6	222
PCAARRD **	MS	-	14	14
	PHD	1	5	6
PCHRD **	MS	55	14	69
	PHD	1	2	3
PCIEERD **	MS	8	2	10
	PHD	-	4	4
ERDT	MS	573	84	657
	PHD	124	5	129
Total for All Programs	MS	1,607	305	1,912
	PHD	437	29	466

* Including National Consortium (NSC)-monitored scholars
** Monitoring Agency

The objectives of the NCGSME are to establish a common quality graduate program in science and mathematics education (SME) and to accelerate the development of critical mass of experts in these areas. Science and Mathematics teachers with at least one (1) year (MS) and two (2) years teaching experience will benefit from this program.

Announcement of graduate scholarship slots will start in June 2015 for BU, MMSU, MSU-Marawi, PNU and WVSU; and August 2015 for ADMU, CLSU and DLSU.

Accelerated Science and Technology Human Resource Development Program (ASTHRDP).

Aiming to improve the country’s global competitiveness and capability to innovate through S&T and to accelerate the production of high-level human resources needed for research and development, this program supported a total of 1,198 MS and 235 PhD scholars monitored by SEI through the National Science Consortium (NSC) and DOST Councils such as PCAARRD, PCHRD and PCIEERD. In 2014, it produced 215 MS and 17 PhD graduates.

3rd National ASTHRDP-National Science Consortium Scholars’ Conference. Serving as a venue for scholars and their mentors to get together, gain updates on new developments in S&T and present research outputs, The 3rd National DOST-SEI ASTHRDP-National Science Consortium Scholars’ Conference was successfully conducted last February 27-28, 2014 at the Traders Hotel, Manila with the theme, “Harnessing S&T Human Resources for ASEAN Integration.”

The National Science Consortium (NSC) has ten (10) member-universities, namely the Ateneo de Manila University, Central Luzon State University, De La Salle University, Mindanao State University-IIT, UP-Diliman, UP-Manila, UP-Visayas, UST, and VSU.

The conference was attended by 290 scholars and mentors from NSC universities all over the country.

This year, the number of paper presentations increased compared to last year. There were 60 and 99 researches accepted for oral and poster presentation, respectively. Six winners coming from the different clusters in the technical poster competition were awarded with cash.



NSC Chair Fabian Dayrit, DOST Secretary Mario Montejo and DOST Undersecretary Fortunato T. dela Peña cut the ribbon to signify the opening of the poster exhibit.

Engineering Research and Development for Technology (ERDT).

The ERDT has a consortium made up of eight member-universities that offer quality masters and doctoral degrees in various engineering and technology fields. In 2014 the program supported 657 MS and 129 PhD scholars, and produced 84 MS and 5 PhD graduates.

3rd ERDT Congress. With the theme “Science and Technology for Disaster Preparedness and Resiliency,” the ERDT, in partnership with Philippine Council for Industry, Energy and Emerging Technology Research and Development, conducted the 3rd ERDT Congress to discuss the very timely and significant concerns of disaster risk reduction and management. It was held on July 25, 2014 during the celebration of the DOST National Science and Technology Week (NSTW) at the SMX Convention Center, Pasay City.

Participants included faculty and scholars of the ERDT consortium universities, officials and researchers from the industry, non-government organizations and other local universities. DOST graduate scholars showcased their thesis/dissertation outputs and poster exhibits during the plenary sessions.

The first plenary speaker, Dr. Emmanuel M. Luna, Professor at the University of the Philippines (UP) College of Social Work and Community Development, showed the social aspects of disaster management through his presentation entitled “Reaching Out for Breath: Issues and Challenges for Disaster Risk Reduction.”

Next, UP College of Engineering Associate Professor Dr. Enrico C. Paringit explained the DREAM Program, an international award winning project in the field of geo-informatics through his presentation titled “Mapping the Hazards of our Environment through Nationwide Disaster Risk Exposure Assessment for Mitigation.”

Dr. Norman Kerle, Associate Professor and ERDT Visiting Professor from the Faculty of Geo-Information Science and Earth Observation of the University of Twente, The Netherlands also delivered his presentation on “Utility of geo-informatics for disaster risk management: linking structural damage assessment, recovery and resilience.”

In light of the devastating Typhoon Yolanda storm surge, Professor Dr. Cesar L. Villanoy of the UP Marine Science Institute gave a presentation on how to best understand the development of such catastrophic phenomenon using a scientific model.

Philippine Institute of Volcanology and Seismology Director Dr. Renato U. Solidum, Jr. presented the topic “Preparing for the Big One,” a reference to the massive earthquake that can hit the metropolis anytime.

Another presentation was given by the Green Economist Governor and the Father of Albay Hon. Joey S. Salceda through his lecture titled “Best Practices of Disaster Risk Management in Albay,” which featured his province’s best practices using culture-based approaches.

The last lecture was presented by UP Institute of Civil Engineering Professor Dr. Benito M. Pacheco who tackled “Disaster Risk Management Education in the Philippines.” Dr. Pacheco showcased how Civil Engineering 10 or the DMAPS (Disaster Mitigation, Adaptation and Preparedness) was conceptualized and implemented in UP as a general course where students from various disciplines can enroll and come up with multi-disciplinary projects that can address disaster risk management.

7th ASEAN Environmental Engineering Conference. More lectures and insights on disaster preparedness and mitigation were held as the ERDT program collaborated with the AUN/SEED-Net JICA Program in sponsoring the the 7th ASEAN Environmental Engineering Conference (AEEC) with the theme “How can communities be ready for disasters? The Role of Environmental Engineering in Community Preparedness, Immediate Response and Environmental Sustainability”.

Held on November 21–22, 2014 in Hotel Centro, Puerto Princesa Palawan, the conference was attended by 140 participants mostly from the academic sector and a handful coming from the

industry. There were 50 foreign participants from the ASEAN region and Japan. The conference featured eight keynote speakers who are experts in the field of Disaster Risk Reduction and Management. Approximately 110 papers were presented in the two-day conference.

Coordination Meetings with Southeast Asian International Partner Universities. In preparation for the ASEAN integration, the ERDT conducted collaboration and synchronization meetings last June 22–27, 2014 with the officials of three ASEAN partner universities, namely: the Institut of Teknologi Bandung in Bandung, Indonesia; University of Malaya in Kuala Lumpur, Malaysia; and Chulalongkorn University in Bangkok, Thailand.

The objective was to present the current engineering education system of the University of the Philippines and the ERDT program and discuss synchronization of academic and curricular programs in the ASEAN region. The agenda included discussions on the challenges and opportunities in the ASEAN education system, the formulation of strategic programs and institutional research collaborations; visits to laboratories and facilities.



(Above) UP COE Dean and ERDT Program Leader Dr. Aura C. Matias receives a token of appreciation from Chulalongkorn University President Prof. Pirom Kamolratanakul, M.D.

SEI Director Dr. Josette T. Biyo, DOST Secretary Mario G. Montejó, Climate Change Commission Executive Director Secretary Mary Ann Lucille Sering, and ERDT Program Leader Dr. Aura C. Matias in the 3rd ERDT Congress on “S&T for Disaster Preparedness and Resiliency”.



(Top Left) The ERDT team with the officials of the Institut of Teknologi Bandung.

(Left) The ERDT team with the officials, faculty members and staff of the University of Malaya’s Faculty of Engineering.



Eng. Dado Banatao, US-based Filipino technology entrepreneur, lectures during the ERDT-hosted Engineering Forum series.

After the series of meetings, ERDT identified the strength and areas for collaboration with the three international partner universities, as follows:

- Institute Teknologi Bandung.
The UP Department of Mining, Metallurgical and Materials Science Engineering is interested in conducting department/course specific benchmarking mission related to Petroleum and Geothermal Engineering, the two main strengths of the Indonesian institute.
- Universiti Malaya
The strength of this organization lies in Publication, Electronics, Materials and Biomedical Engineering. The proposal is to conduct research mission such as short term immersion programs for faculty and students in these fields.

- Chulalongkorn University
Areas to pursue for benchmarking will cover Civil Engineering (including Fire Engineering) Electrical, Robotics, Environmental and Biomedical Engineering.

International experts visit.

In 2014, the ERDT hosted the visit of several international experts who conducted meetings and lectures and provided inputs for ERTD scholars and faculty members of the ERDT Consortium (*See table 5*).

ERDT hosts Engineering Forum series.

The Forum Series is an event in partnership with other institutions, usually foreign universities. The forum serves as an avenue for ERDT scholars to meet other faculty and learn engineering in an international perspective. It also aims to create possible collaboration with other universities for R&D projects, exchange study, and other academic alliance activities (*See Table 6*).

TABLE 5. List of Visiting Professors under the ERDT Scholarship Program.			
Date of Visit	Visiting Professor	University Consortium	Area of Specialization
January 13-February 24, 2014	Eryk Dutkiewicz	Macquarie University	Wireless Sensor Networks
March 16-29, 2014	Dr. Isabelo Rabuya	Electrical Engineering Department, USC Roland Clift University of Surrey	Environmental System Analysis
May 25 - 31, 2014	Dr. Anthony Chiu	Jaclyn Lorraine Ocumpaugh Columbia University	Educational Data Mining
July 26 - August 24, 2014	Dr. Ma. Mercedes Rodrigo	ADMU Ming Lim University of Derby	The Role of Technology Improving Visibility in Sustainable Supply Chain
September 23-October 12, 2014	Dr. Anthony Chiu	TetsuoYai Tokyo Institute of Technology	Management and Planning of Different Modes of Transportation
July 6-15, 2014	Dr. Karl Vergel	Chi-Fang Huang Tatung University	Tatung University Electronics Communication and Bio-Medical Engineering
November 23-November 29, 2014	Prof. Olga Gerasta	Ryuichiro Kondo Kyushu University	Bioactive Compounds
July 19, 2014-26, 2014	Dr. Rizalinda De Leon	Norman Kerle University of Twente	Utility of Geo-informatics for Disaster Risk Management: Vulnerability Assessment, Risk and Post Disaster Structural Damage
September 18-25, 2014	Dr. Rhodora Gonzalez	Antonie Veldkamp University of twente	Modelling land use/cover change, quaternary gelology, geomorphology

TABLE 6. List of ERDT Engineering Forum Series conducted in 2014.				
Date of Forum	Resource Person	Venue	University	Topics
1 14-Feb-14	Dr. Daniel Ducoff, Dr. Andrew Rollins, Dr. Robert Lacks, Dr. Rigoberto Advincula, Dr. Diosdado T.Banatao	Geodetic Engineering Theater	Case Western Reserve University, Sigmatech and PhilDev	Introduction of “Engineers Without Borders”
2 27-Mar-14	Dr. Roland Clift	Faculty Lounge, Melchor Hall	University of Surrey	The Role of Industrial Ecology in Environmental Policy and Company Strategy
3 12-May-14	Dr. Gary Wnek	Engineering Theater	Case Western Reserve University	“ThinkBox” launching
4 24-Jul-14	Dr. Norman Kerle	Geodetic Engineering Theater	University of Twente and UPD Department of Geodetic Eng'g.	Object Oriented Image Analysis Methods in Disaster Risk Management - State-of-the-Art and Prospects for the Philippines
5 22-Aug-14	Dr. Ming K. Lim	Beta Epsilon Multimedia Hall	University of Derby, De La Salle University and UPD-DIEOR	The Role of Technology Improving Visibility in Sustainable Supply Chain
6 22-Sep-14	Dr. Eric Pallant	Engineering Theater	Allegheny College	Rehabilitating Polluted Rivers: The Solution is Not in the Water
7 28-Oct-14	Dr. Nimal Rajapakse	Geodetic Engineering Theater	Simon Fraser University	Mechanical Behaviour of Graphene Using Molecular Dynamics and Atomic-Scale Finite Element Method
8 24-Nov-14	Prof. Tom Veldkamp	Geodetic Engineering Theater	ITC University of Twente	Modelling landscape disruption and responses: Lessons for community

DOST-SEI SCHOLARS RECOGNIZED.

“In Touch with Excellence” honors outstanding scholars.

The annual activity of the Science Education Institute, as part of the celebration of the National Science and Technology Week (NSTW), recognizes BS and MS scholars who graduate with the academic honors, and PhD degree graduates of its scholarship programs.

The ceremony was held at the Midas Hotel last July 25, 2014 and was attended by 194 scholar-graduates and their parents/guardians, partner-institutions, and DOST-SEI officials and staff. The BS and MS scholars who completed their degrees with academic honors were awarded the medal of Academic Excellence in Science while those who completed their PhD were awarded with Plaques of Recognition

The Capacity Building in Science Education produced 13 graduates, six with MS and seven with PhD degrees. The ASTHRDP produced 215 MS and 17 PhD graduates while the ERDT Program produced 84 MS and five PhD graduates..



(Above) The DOST-SEI scholar-graduates with Dr. Reinabelle C. Reyes, Prof. Fortunato T. dela Peña and Dr. Josette T. Biyo.

Dr. Reinabelle C. Reyes, a 2011 Merit Scholarship Program recipient who studied BS Physics and graduated Summa cum laude at the Ateneo de Manila University in 2004, served as the guest speaker of the event. The lead of the research team who proved Einstein's Theory of Relativity in 2010, Dr. Reyes obtained her PhD degree at Princeton University, New Jersey, USA and became a postdoctoral fellow at the Kavli Institute of Cosmological Physics at the University of Chicago, USA.



(Above) Dr. Josette T. Biyo delivering her Opening Remarks during the recognition program for scholars.



Special night for scholar-graduates held.

“Scholars’ Night” is the very first gathering of scholar-graduates organized by DOST-SEI as a way of further recognizing their valuable contributions to the country’s S&T development and inspiring other scholars to also do well in their chosen fields. The event was held at the SMX Convention Center on July 25, 2014 as part of the celebration of the 2014 National Science and Technology Week. In attendance were 280 scholar-graduates, parents, and DOST officials.

Inspirational messages were delivered by these successful DOST-SEI scholar-graduates:

- Engr. Christian Jeffrey Hidalgo, a 1994 Merit awardee who studied BS Chemical Engineering at UP-Diliman and is now a singer/director and entrepreneur, talked about Science in Entrepreneurship.
- Dr. Brenda Nazareth-Manzano was a 1978 NSTA scholar who studied BS Chemistry at the Western Mindanao State University and is now the Regional Director of Department of Science and Technology in Zamboanga Peninsula. She delved on the topic, Science in Leadership and Governance.
- Dr. Reynaldo Vea, a 1969 NSTA scholar, BS Electronics Engineering graduate of the University of the Philippines-Diliman and now the President and Chief Executive Officer (CEO) of Mapua Institute of Technology, talked on Science in the Academe.

(Above) Engr. Christian Jeffrey Hidalgo urges the scholars to venture to entrepreneurship.

(Topmost) Dr. Reynaldo Vea shares his experiences as a DOST scholar.

TABLE 7. Distribution of DOST-HRDP scholars supported by status and level, 2014					
Particular	No. of scholars supported				Total
	MS		PhD		
	Full-Time	Part-Time	Full-Time	Part-Time	
New	14	12	8	5	39
Continuing	14	1	11	6	32
Graduated	12	-	-	-	12
TOTAL	40	13	19	11	83

CAREER INCENTIVE PROGRAM LAUNCHED.

In response to the administration’s call to strengthen the country’s S&T capability and boost employment opportunities for DOST scholar-graduates, the Institute launched an incentive program providing specialized career positions to Masters and Doctoral degree scholar-graduates under the Accelerated Science and Technology Human Resource Development Program (ASTHRDP) and the Engineering Research and Development for Technology (ERDT).

Specifically, the program offers Senior Science Research Specialist and Supervising Science Research Specialist positions in DOST Research Institutes and other agencies, giving qualified graduates real world involvement in research and development and other technology services under the mentorship of a scientist.

As of end of CY 2014, DOST-SEI disseminated to DOST R&D Institutes the availability of MS/PhD graduates who can work on their research projects, and evaluated application forms and other documentary requirements submitted by the applicants for endorsement to the research institutes for their consideration.

DOST EMPLOYEES BENEFIT ON CONTINUED SCHOLARSHIP.

Regular employees of the DOST system continue to benefit from the DOST-Human Resources Development Program (DOST-HRDP) via scholarship and training grants and other post-graduate capacity-building incentives for skills development and career advancement. These scholarships cover the fields of natural sciences, engineering, social sciences, management and related subjects. In 2014, the DOST-HRDP supported a total of 53 MS and 30 PhD scholars. New scholarships were awarded to 26 MS and 13 PhD aspirants while 12 MS recipients graduated.

TABLE 8. Number of 2014 Awardees of the Other Components of the DOST-HRDP

Other Programs	No. Of Awardees
Short-Term Training Program	9
Incentive Program	4
Bar/Board Review Grant	1
TOTAL	14

The program also supported one employee who is pursuing his PhD abroad and another one who is completing his dissertation (**See Table 7**).

The DOST-HRDP also supported nine DOST employees for Short-term Training Program to enhance their skills and upgrade their knowledge on recent developments in science and technology. For having completed their graduate programs on their own, four employees received financial reward under the Incentive Program while one employee was granted Bar/Board Review Grant (**See Table 8**).

S&T SPECIALISTS ENCOURAGED INTO PUBLIC SERVICE UNDER PD NO. 997.

With the goal of supporting and encouraging science and technology specialists to get into public service, the Institute distributed brochures and other information materials on Presidential Decree No. 997 (PD No. 997). The law allows the conferment of Civil Service Eligibility to a scientific or technological specialist whose expertise is gained through advanced education and sharpened by research and teaching experience to promote scientific research and invention towards the advancement of science.

Having been appointed as the program’s implementing agency effective April 1, 2013, the Science Education Institute is tasked to provide the technical and administrative support to the PD No. 997 Presidential Committee and Technical Working Group in the pre-screening, evaluation, and processing

of applications to the program. The Institute will also submit the final list of qualified applicants to the Civil Service Commission upon endorsement by the DOST Secretary. The information dissemination campaign was conducted during the regional National Science and Technology Week (NSTW) cluster fairs. Brochures were distributed also to various DOST offices, while an official website on PD No. 997 under the SEI website was created and linked to the various websites of the DOST Offices/Regional Offices.

Qualified PD No. 997 applicants will be conferred the S&T Specialist Eligibility, which is considered appropriate for personnel in the first and second level positions in the government whose courses are not covered by Bar, Board and other special laws.

In 2014, a total of 38 applications were evaluated and 24 applications were endorsed by the DOST Secretary to the CSC Central Office and various concerned CSC Regional Offices and granted S&T eligibility under PD No. 997.

The member of the Technical Working Group (TWG) also completed the revisions of the Implementing Rules and Regulations (IRR) of the law, and submitted the same for final review/approval by the members of the Presidential Committee and DOST Secretary, respectively.



S&T Scholarship Division Chief Alicia L. Asuncion discussing the DOST-HRDP scholarship policies with the Batch 2014 scholars.

- Recommendation from head of office or school on the application for PD 997 eligibility, which shall include a statement regarding his/her assessment of the applicant's research or teaching proficiency;
- List of S&T subjects taught/being taught and the duration of teaching said subjects, duly certified by the Dean of the school (using the prescribed Form); and
- Other documents such as:
 - o Published research paper/technical reports for concluded scientific research, or progress reports for researches still in progress. The reports must be certified as true copy by authorities to whom the original copies were submitted and must include the start and end dates;
 - o Certification of research proficiency from the Head of Office indicating the title of scientific research project/s the applicant has participated in and the duration and nature of participation and/or responsibilities of the applicant in the research project. Certificate of patented invention if applicable.

Scientific and Technological Specialist (STS) Eligibility Grant (PD 997)

Where to submit application?

PD 997 Secretariat
DOST-Science Education Institute
1st and 2nd Levels, Science Heritage Building
Bicutan, Taguig City
Telephone Nos. 837-1215/839-0081
For more information: Please visit <http://stednet.edublogs.org/pd997> or www.sei.dost.gov.ph/pd997

Presidential Decree (PD) No. 997
is a law that confers Civil Service Eligibilities to Scientific and Technological Specialists on the bases of their qualifications and the requirements of public service.

Forming a culture of S&T innovation

requires a deep recognition of the influencing factors of society, particularly the social and cultural values, norms, attitudes and behaviors that define our way of life. DOST-SEI's experiences have made the Institute acutely aware of the need to involve the public in its major technological orientations to foster public understanding of science and technology.

BUILDING SCIENCE AND TECHNOLOGY CULTURE

The Institute's wide variety of measures include hosting high-visibility local and international workshops and competitions, forging partnerships with public and private organizations, innovating strategies and technologies for effective science and mathematics learning, and exploring new forms of promoting science and mathematics that appeal to the youth. Policy measures are also formulated to give attention to specific target audiences, close the digital gap, promote S&T careers and the culture of innovation, and even raise awareness on scientific entrepreneurship.

INITIATIVES EXPAND S&T REACH.

#Push4Science campaign successfully reaches various municipalities.

Municipalities that had no examinees to the DOST-SEI Undergraduate S&T Scholarship Program from 2010-2012 received encouragement from DOST-SEI through the #Push4Science: Maging DOST Scholar Kal! strategic marketing communication initiative. The campaign sought to promote awareness on the S&T Scholarship Program in order to entice potential students, particularly from incoming fourth-year high school population, to apply for the scholarship programs.

In 2014, the campaign directly reached 15 out of the 71 target municipalities while engaging the other concerned areas in information drives conducted by DOST Regional Offices and Provincial Science and Technology Centers (PSTC). It served a total of 679 students and teachers from schools in Baras in Catanduanes; Adams and Dumalneg in Ilocos Norte; San Isidro, San Benito and Burgos in Siargao Island; Banayoyo, Burgos and San Emilio in Ilocos Sur; Libertad, Balingoan and Kinoguitan in Misamis Oriental; Tagoloan and Magsaysay in Lanao del Norte, and Malitbog in Bukidnon.

During the campaign, application forms and Information, Education and Communication (IEC) materials for the RA 7687 and Merit Scholarship Programs were distributed as DOST-SEI personnel guided the students and school officials on the application process in full detail.

Ongoing and graduate scholars also spoke about their experiences as DOST Scholars to inspire potential applicants to follow their path. The team also obtained the support of the Principals and Local Government Units primarily in providing transportation for the students during the submission of forms and actual exam date and in sustaining the campaign in their schools/localities.

DOST-SEI provided Scholarship Campaign Kits to the PSTCs for their respective scholarship caravans to the 56 other municipalities. Posters, brochures and other collaterals were also distributed in all DOST attached agencies in Metro Manila to promote the scholarship program.

The campaign also included exhibits, audio-visual presentations, posters/tarps, stickers, notebooks, press releases, games, campaign folders/kits, brochures, fact sheets, shirts, jackets and others.

SCIENCE EXPLORER VENTURES INTO MORE AREAS.

The country's first mobile science learning facility, the Science Explorer bus, improved its pace in bringing fun science learning to kids in 2014 as it increased by 25% the number of students served from 3,081 in 2013 to 3,842.

The Science Explorer touched base with the youth in new areas and other previously visited places, namely:

the students. They are:

1. Earthquake
2. Fun Chemistry
3. Puzzle Mathematics
4. Landslides
5. Sedimentary Rocks
6. Let it Go – The Physics of Transportation
7. Let it Float – The Physics of Buoyancy
8. Trophic Levels
9. Acids and Bases
10. Robotics for Elementary
11. Robotics for High School
12. Androids
13. The Science of Communications for Elementary
14. The Science of Communications for High School
15. The Science of Gravity
16. Energy Saving
17. Bioluminescence
18. Plastics and the Environment
19. DNA Science

TABLE 9: New areas and participants reached by Science Explorer	
Destination	No. of Participants
Baras, Catanduanes	368
Dumalneg, Ilocos Norte	110
Banayoyo and Burgos, Ilocos Sur	359
Tuguegarao City	393
Dagupan City and Bicutan, Taguig	2,612

Modules created in 2014 also increased to cater to the fast-changing pace of science and stoking the flames of interest amongst



A student from Tuguegarao City checks the pH level of an unknown liquid in an activity inside the Science Explorer.



Students from Burgos National High School in Burgos, Ilocos Sur await their turn at the Science Explorer.



(Above) The Push4Science Team made a courtesy call to the Mayor of Baras, Catanduanes.



(Above) Mayor Rodel V. Abichuela of Baras, Catanduanes poses with the Push4Science Team of DOST-SEI.



(Above) The Push4Science Team with the campaign participants.



(Topmost) Student-participants eagerly listen to the speaker during the campaign.

TAGISANG ROBOTICS HEATS UP AMONG HIGH SCHOOL STUDENTS.

The first and only varsity-type robotics competition in the country, the *Tagisang Robotics: Design. Build. Play. Competition*, completed its fourth year by having drawn hundreds of eager participating high school students and teachers. The event, considered the toughest robotics competition in the country, engaged students to hone their skills in mathematics, programming, project management, problem solving, creativity, teamwork and communication.

Pre-Competition Training and Workshop.

This period involved a five-day intensive robotics training program attended by 111 high school students and teachers from 31 public and six private high schools in NCR and Bulacan on May 26-30, 2014 at the UP-NISMED Auditorium, Diliman, Quezon City. Members of the participating school

teams were given hands-on training on Basic Electronics, Arduino-based microcontroller programming, Bluetooth module application, breadboard prototyping and Mechatronics.

Game Commencement.

On August 1, 2014, the Game Kick-off Ceremony signalled the start of the 90-day robot-building period. Each team received a common kit-of-Parts (KOP) with an upgrade that includes a basic pneumatic kit to bring in new challenges and improvement to the competition. The Technical Committee Members, Engr. Percival Magpantay from UP-EEEI and Engr. Carlos Matti Oppus from ADMU-ECCE, also revealed the new game mechanics and final competition guidelines.

Final Competition: “The Ultimate Clash.”

The three-day competition proper took place at the Hall 2 of SMX Convention Center, SM Mall of Asia in Pasay City on October 28-30, 2014. Pitogo High School, last year's Best Rookie Team Awardee and Best Team, once again bested 34 teams to dominate the 2014 competition. The team members brought home P100,000 cash prize, P30,000 for their coach, along with a trophy for the school and medals for the students and coach.



Loud and Proud. Pasig City Science High School Team Antimatter cheering and chanting before the game start.



Student-participants gear up their robot as they learn the basics of electronics in the Tagisang Robotics Technical Training.



(Left) Students and robots team up to prove their might during the varsity game competition of the 2014 Tagisang Robotics—the last edition of an industry-type robot engineering contest in the country.



Likewise, the alliance of Pitogo High School, Grace Christian College, and Rizal High School cruised past the alliance of Victorino Mapa High School, Philippine Science High School Main Campus, and Rizal National Science High School in the Championship Round to be named as Best Alliance. They brought home P150,000 cash prize, P30,000 for their coaches, medals for students and trophies for their schools.

For the Special Awards, Pasig City Science High School won the Most Popular Robot Award given by Felta Multimedia Inc., while Caloocan High School received the Most Popular Team Award given by Alexan Commercial. Rizal High School, on the other hand, won the Best Blog Award courtesy of Thinklab Training and Consulting given to the team that has the most creative, well-written and managed blogsite containing their experiences,

developments and achievements during the robot-building period. Lastly, Valenzuela City School of Mathematics and Science grabbed the Best Robot Engineering Design Award presented by Intel Philippines.

Tagisang Robotics started out in 2011, as an offshoot of the FIRST Robotics Competition (FRC) held in Hawaii, USA. Since then, Tagisang Robotics has continued to improve and reach more students. Many who participated in the last four years are now studying engineering and other STEM related courses, a solid statement to SEI's advocacy to beef up the number of science professionals in the country and create an impact on nation building and development. The schools likewise continue to support their robotics team and have even started their own local robotics competition as an initiative to include robotics in their curriculum.

Pitogo High School, Rizal High School and Grace Christian College rounded up the competition as the Best Alliance in the Championship Round.



CAMP EXPOSES STUDENTS TO INNOVATION AND CLIMATE SCIENCE.

The importance of understanding climate science and its attendant technologies prompted DOST-SEI to implement the Innovation and Climate Science Camp in partnership with Hyundai Asia Resources Inc. Foundation Inc. (HFI) as part of the Hyundai New Thinkers Circuit and in cooperation with UP Marine Science Institute (MSI) and UP National Institute of Geological Sciences (NIGS).

Held on April 1-9, 2014 at the Hollywood Palm Beach Resort, Puerto Galera, Oriental Mindoro, the camp featured plenary sessions, laboratory activities, field activities and exposure trips that covered major topics in Geology and Marine Science. Scientists teamed up with participating students to let them get the feel of actual research and fieldwork done by experts such as Map Reading, Pace Factoring, GPS Reading, Mineral and Rock Identification, Flood Hazard Mapping, Water Filtration, Water Quality Sampling, Plankton Microscopy, Basic Snorkeling and Sea Safety and Survival.

The Innovation and Climate Science Camp bridges the basics of climate science, the technology of hazards assessment and reduction among students by allowing them to explore the land forms, the river systems and the ocean and have fun at the same time. They were also exposed to S&T careers through specific environmental issues.



(Above) Instructors from UPNIGS demonstrate the use of Turbidity Meter to measure the water quality of Tabinay River.

(Topmost) Participants of Innovation and Climate Science Camp with (at the center, from left to right) HARI Vice Chairman Conrad Marty, HFI Board of Trustee Mr. Edward S. Go, HFI Chairman Mr. Richard L. Lee, HFI President Ms. Ma. Fe Perez-Agudo, DOST Usec. Fortunato T. dela Peña, UP NIGS Dr. Carlos Primo David, and DOST-PSTC Region IV-B Director, Mr. Jessie Pine.

(Right) Students get the chance to bask under the sun and have fun while learning the basics of snorkeling.



SPACE SCIENCE EDUCATION PROGRAM TAKES OFF ANEW.

World Space Week marks 15th anniversary. In 2014, DOST-SEI marked with the rest of the world the 15th World Space Week celebration.

The World Space Week (WSW) is the largest international space celebration in the world that highlights the role of space science and technology to the betterment of the human condition. It is also an ideal time for teachers and students to use space-inspired activities to promote astronomy.

With the theme "Space: Guiding Your Way," the 15th World Space Week focused on the benefits of satellite navigation systems to society.

In the Philippines, the celebration was held at the Legend Palawan Hotel and Palawan State University in Puerto Princesa City, Palawan on October 8-10, 2014. Twenty (20) schools from the province of Palawan and three (3) Philippine Science High School Campuses in Iloilo, Cebu and Clark were invited to send their representatives to participate in this annual celebration. This was the first time that WSW was held outside Luzon.

The three-day event was highlighted by the Water Rocket Competition participated in by forty (40) high school students. The team from Palawan State University Laboratory High School (PSU-LHS) emerged as winners when they landed their water-bottle rocket a foot away from the bull's eye. The target

was located 80 meters away from the launch site. The team received P10,000 cash prize and represented the country in the 21st Asia Pacific Region Space Agency Forum (APRSAF) – Water Rocket Event (WRE) on November 28 to December 1, 2014 in Tokyo, Japan.



To enrich the participants' understanding of the importance of space science, a lecture on Space Technology Application for the students focused on Global Navigation Satellite System (GNSS) while PSSEP's Focal Person, Dr. Rogel Mari Sese, led a training session on Astronomy for Educators.

A poster-making contest with the theme: "Space is the Future" was also conducted for elementary students aged 8-11 years old, to give them an opportunity to exercise their creativity and showcase their ideas of space in art form. The top three Palawan-based winning entries of the WSW Poster-Making Contest were also sent to Tokyo, Japan for the APRSAF Poster Contest.



(Above) Build your own model satellite: students and their teacher make their own models of satellites patterned after the Aeolus, Rosetta and SOHO models to gain deeper appreciation of space science and engineering.

(Topmost) Despite the heavy downpour, students from Palawan region were very eager and excited to launch their own water-propelled bottle rocket.

(Left) The top three winners in the WSW Poster-Making Contest present their winning entries to be sent to Tokyo, Japan for the APRSAF Poster Contest.



The Water Rocket Event contestants and organizers in the last APRSAF beaming with pride as they gather after the exciting competition.

Philippine Team goes to Japan.

The Philippines participated in the 21st Asia Pacific Regional Space Agency Forum (APRSAF) on November 28 – December 8, 2014 in Tokyo, Japan. It was jointly organized by Japan Aerospace Exploration Agency (JAXA) and Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT) with the theme: “Leap to the Next Stage: Delivering Innovative Ideas and Solutions”. Two high school students from Palawan State University – Laboratory High School, namely: Reniel V. Rosaceña and Nur Alan Pavlo B. Barte II, represented the Philippines in the Water Rocket Event held on November 28 to 30, 2014. They competed against 72 students from 17 countries in the Asia Pacific Region with PSSEP Focal Person, Dr. Rogel Mari Sese as coach and co-chair of the Space Education Working Group. The Philippines finished 4th place overall.



The Top Three (3) Winners (from left to right) with Mathematical Society of the Philippines President Jose Maria P. Balmaceda, Ms. Ruby R. Cristobal of DOST-SEI, Ms. Milagros D. Ibe of the Foundation for Upgrading the Standard of Education (FUSE) and Mr. Lucero Ong Assistant Vice President of Sharp Calculators

STUDENTS PARTICIPATE IN 17TH PHILIPPINE MATHEMATICAL OLYMPIAD (PMO).

Around 213 high school students took part in the oldest & the most prestigious national mathematics competition among secondary students in the country. The PMO is organized and implemented by the Mathematical Society of the Philippines (MSP) in cooperation with DOST-SEI with the aim of improving mathematics education and instilling greater interest in mathematics among students and teachers.

The National Stage of the competition was held on January 24, 2015 at the University of Santo Tomas, Manila with twenty (20) finalists competing.

Three (3) winners emerged in the 17th PMO (See Table 10).

TABLE 10: Winners of the 17th PMO		
Name	School	Award/Prize Received
Adrian Reginald Sy	St. Jude Catholic School	Champion/ First Place P20, 000, Trophy, Medal, Cert
Farrell Eldrian Wu	MGC New Life Christian Academy	1st Runner up/ 2nd Place P15, 000, Trophy, Medal, Cert
Kyle Patrick Dulay	Philippine Science High School – Main Campus	2nd Runner up/ 3rd Place P10, 000, Trophy, Medal, Cert

STUDENTS PREPPED IN MATH OLYMPIAD SUMMER CAMP.

Preparatory to the International Mathematics Olympiad, the Math Olympiad Summer Camp (MOSC) was held from April 7 to May 22, 2014. Primarily targeted for the National Finalists at the Philippine Mathematical Olympiad, this year’s camp also included those students who did well at the Asia Pacific Mathematics Olympiad (APMO).

The MOSC trainers were: Dr. Jose Ernie C. Lope (UP Diliman, Team Leader of the Philippine Team), Dr. Richard Eden (Ateneo de Manila University), Dr. Timothy Teng (ADMU), Dr. Job Nable (ADMU), Mr. Joseph Ray Clarence Damasco (UPD, Deputy Team Leader), Mr. Louie John Vallejo (UPD), and Mr. John Pelias (UPD).

The participating students were:

1. **Ang, Clyde Wesly**
Chiang Kai Shek College
2. **Aranas, John Angel**
Makati Science High School
3. **Balete, Nathanael Joshua**
St. Stephen’s High School
4. **Dulay, Kyle Patrick**
Philippine Science High School - Main
5. **Fadri, Raymond Joseph**
Makati Science High School
6. **Jaba, Andrea Jessica**
St. Jude Catholic School
7. **Lao, Ma. Czarina Angela**
St. Jude Catholic School
8. **Mirabueno, Jose Alfonso**
Phil. Sci. HS
Southern Mindanao Campus
9. **Que, Shaquille Wyan**
Grace Christian College
10. **Sin, Immanuel Gabriel**
Ateneo de Manila University HS
11. **Sy, Adrian Reginald**
St. Jude Catholic School
12. **Sy, Andrew Lawrence**
Xavier School
13. **Tan, Matthew Ryan**
St. Jude Catholic School
14. **Uy, Harvey**
British School
15. **Wu, Farrell Eldrian**
MGC New Life Christian Academy
16. **Yao, Kaye Janelle**
Grace Christian College

Quizzes consisting of IMO-level questions were given almost every day, and the participants were given 1.5 hours to tackle each problem, as in the IMO. The quizzes were scored and the running total was monitored by the trainers regularly. Twice during the MOSC (in the middle and at the end), the participants were given a mock IMO exam, i.e., six problems for two consecutive days.

On May 22, 2014, the composition of the Philippine Team to the 55th IMO was finalized:

1. **Ang, Clyde Wesly**
Chiang Kai Shek College
2. **Dulay, Kyle Patrick**
Philippine Science High School - Main
3. **Lao, Ma. Czarina Angela**
St. Jude Catholic School
4. **Sy, Adrian Reginald**
St. Jude Catholic School
5. **Tan, Matthew Ryan**
St. Jude Catholic School
6. **Wu, Farrell Eldrian**
MGC New Life Christian Academy



The members of the Philippine Team had an additional two-day training in Tagaytay as part of their training for the IMO.

A send-off event was hosted by the Mathematical Society of the Philippines on June 28, 2014 at the Institute of Mathematics, UP Diliman.

(Above) The best of the best: The Philippine Team for the 55th International Math Olympiad (IMO).

(Topmost) Highly skilled trainers from the University of the Philippines and Ateneo de Manila University fine tune the talents of young math wizards during the Math Olympiad Summer Camp.

TEAMS VIE IN PHILIPPINE ROBOTICS OLYMPIAD.

The Philippine Robotics Olympiad (PRO) continues to be a top draw among public and private school students interested in robotics. In 2014, the competition drew 55 teams from elementary level and 81 teams in the secondary level for the preliminary judging held on September 10 and 11, 2014 at the SM North EDSA Annex Bldg., Quezon City.

On September 12, 2014, 25 teams in the elementary and 40 teams in the secondary level qualified in the final judging. In the Regular Category, the top three team winners in the elementary and high school levels competed in the World Robot Olympiad (WRO) held on November 21-23, 2014, in Sochi, Russia:

- (Elementary) Team A – Bagong Pag-asa Elementary School, Quezon City;
- Team B – West Rembo Elementary School, Makati; and Naga Central Elementary School, Cebu.
- (Secondary) Team A – Living Stone International School, Pampanga;
- Team B – Pitogo High School, Makati; Diliman Preparatory School Commonwealth, Quezon City;

In the Open Category, the following top three (3) teams in elementary and secondary levels also competed in the 2014 WRO:

- (Elementary) Dr. Yanga's Colleges Inc., Bulacan; Grace Christian College, Quezon City; First Robotics Center, San Juan;
- (High School) Dr. Yanga's College; Grace Christian College; Philippine Science High School – Eastern Visayas.

For the Robot Soccer: PSHS – Bicol Campus, Team A; Benigno Aquino High School; Science and Technology Education Center.



2014 BPI-DOST Project of the Year Awardees, with DOST and BPI Foundation Officials (from left to right) SVP Florendo G. Maranan, Executive Director of BPI Foundation, DOST Undersecretary for S&T Services Prof. Fortunato dela Peña and BPI Foundation, Inc. President Cesar Consing.

BPI FOUNDATION CONTINUES INCENTIVE PROGRAM.

The joint project of DOST and the Bank of the Philippines Inc. (BPI) Foundation, the BPI-DOST Best Project of the Year Awards, continues to provide incentives to students who excel in the fields of Biology, Mathematics, Chemistry, Physics, Engineering and Computer Science. Graduating students from 10 accredited schools and universities vie for the top three best thesis to win cash prizes, trophies and certificates.

For the year in review, 29 entries were submitted by the following accredited schools for evaluation:

1. Ateneo de Davao University
2. Ateneo de Manila University
3. De La Salle University
4. Saint Louis University
5. Silliman University
6. University of the Phils.-Diliman
7. UP Los Banos
8. University of San Carlos
9. University of Santo Tomas
10. Xavier University

On February 11, 2014, the Board of Judges selected the top seven finalists for the Applied and Basic Research Categories. The judges were composed of six experts from DOST for the technical aspect and three from BPI for the business aspect.

On March 6, 2014, the Top Three Winners were recognized at the Mind Museum Special Exhibition Hall, Bonifacio Global City (See Table 11).

TABLE 11: BPI-DOST Best Project of the Year Award Winners		
Name and University	Project Title	Awards/Prizes
Alexander John Cruz BS Chemical Engineering University of the Philippines (Diliman)	Design, Optimization, and Field Testing of a Plasma-Enhanced Optic Fiber Reactor for Hydrogen Production via Visible Light-Driven Photocatalytic Water-Splitting	1st Place P 50,000.00 Trophy Graduate Scholarship Grant (SEI-DOST)* * subject to the approval of the Committee
Jessa Marie Makabenta BS Chemistry University of the Philippines (Los Baños)	Sodium Caseinate Encapsulation of Coconut Oil-Extracted Astaxanthin from Shrimp Wastes for Enhanced Stability, Bioavailability and Bioactivity and Controlled Release	2nd Place P 30,000.00 Trophy
Kevin Colina BS Computer Science University of San Carlos	Electronic-Storybook Creator with Cebuano Natural Language Processing-Based Animation for Kindergarten Educators	3rd Place P 10,000.00 Trophy

LEARNING AND PLAYTIME MIX IN FIRST LEGO LEAGUE.

The fun and educational competition called the FIRST Lego League (FLL) drew the participation of 13 teams from different public and private elementary and high schools on February 22, 2014 at the Quezon City Science Interactive Center, Bago Bantay, Quezon City. This robotics program from FIRST (For Inspiration and Recognition of Science and Technology) and the Lego Group entices children aged 9 to 16 years old to engage in a playful learning contest and to begin to think like scientists and engineers.

Dr. Yanga's College Inc. won the National FLL and represented the country in the International FLL World Festival on April

21-25, 2014 in St. Louis, Missouri, USA. The National FLL is a joint project of SEI-DOST and Felta Multimedia Inc.



(Above) Participants battle for the championship during the National FIRST Lego League at the Quezon City Science Interactive Center.



(Left) FIRST Lego League National Awardee Dr. Yanga's Colleges Inc. with Ms. Mylene Abiva CEO/President of FELTA Multimedia Inc.

PHILIPPINE TEAMS
BRING HONOR IN
INTERNATIONAL
COMPETITIONS.

Australian Mathematics Competition (AMC). In one of the largest competitions in the world – the annual international correspondence-based Australian Mathematics Olympiad (AMC) – 52 Filipino students from different schools received Certificates of High Distinction.

TABLE 12: 2014 Australian Math Competition Awardees		
Prize	Students	School
Perfect Score	Stefan Marcus Ong	St. Jude Catholic School
	Christian Philip Gelera Jose Ignacio Locsin	Philippine Science High School – Main Campus
	Clyde Wesley Ang	Chiang Kai Shek College
	Farrel Eldrian Wu	MGC New Life Christian Academy
	Junstin Timothy Uyongco	Hua Siong College of Iloilo
Prize Awardees	Sean Matthew Tan	Jubilee Christian Academy
	Jeremie Keon Torralba	Southville International School and Colleges Notre Dame of Greater Manila
	Dominic Lawrence Bermudez	Mother Goose Special School System
	Jan Cedrick Quintin	UP Integrated School
	Patricia Capito Naomi Anne King Genrish Ng Steven Reyes	St. Jude Catholic School

The AMC is administered by the non-profit Australian Mathematics Trust (AMT), and is conducted by DOST–SEI in cooperation with the Mathematics Trainers’ Guild (MTG), DOST Regional Offices and Department of Education.

Simultaneous with other countries, the AMC was conducted on August 07, 2014 and drew the participation of over 400,000 students from 40 countries including 3,400 students from the Philippines.

The 2014 AMC Awarding Ceremonies were held on October 28, 2014 at the Tramway Bayview Buffet Restaurant, Pasay City. The following students obtained prizes:

International Mathematics Olympiad (IMO). Winners of the Philippine Mathematical Olympiad went to Cape Town, South Africa on July 3-13, 2014 to represent the country in the 55th International Mathematics Olympiad (IMO), the largest, most prestigious and most difficult mathematics competition in the world. The Philippine participation to the IMO is jointly organized by SEI-DOST and the Mathematical Society of the Philippines (MSP).

Six students of the Philippine team received honors in the 55th IMO (*See Table 13*):

TABLE 13: 55th IMO Awardees		
Name	School	Award
Adrian Reginald Sy	St. Jude Catholic School	Silver Medal
Farrell Eldrian Wu	MGC New Life Christian Academy	Bronze Medal
Kyle Patrick F. Dulay	Philippine Science High School – Main Campus	Bronze Medal
Matthew Ryan Tan	St. Jude Catholic School	Bronze Medal
Clyde Wesley Ang	Chiang Kai Shek College	Honorable Mention
Ma. Czarina Lao	St. Jude Catholic School	Honorable Mention

Dr. Jose Ernie Lope and Dr. Joseph Ray Clarence Damasco both of UP-Institute of Mathematics led the Philippine Team as Team Leader and Deputy Team Leader, respectively.

For the first time, the Philippines finished in the top half of all participating countries and was tied with France.



(Above) The Philippine Team of the 55th International Mathematical Olympiad (from left to right) Dr. Jose Ernie Lope, Ma. Czarina Lao, Adrian Reginald Sy, Kyle Patrick Dulay, Farrel Eldrian Wu, Matthew Ryan Tan, Clyde Wesley Ang, and Dr. Joseph Ray Clarence.

World Robot Olympiad (WRO). The teams that won in the Philippine Robotic Olympiad went on to represent the country in the World Robot Olympiad (WRO), the pinnacle of excellence & achievement in robotics for elementary & secondary students throughout the world.



(Left) DYCI Primes of Dr. Yanga’s Colleges Inc. showcasing their robot that won a Creative Award from the Special Award of 2014 WRO.



The awardees of the AMC 2014.

Held on November 21 – 23, 2014 in Sochi, Russia, the event drew nearly 400 teams from 47 countries with the theme: “Robots and Space”. The Philippine Robotics Team comprised 75 participants, headed by Dr. Josette T. Biyo, Director of SEI and Ms. Mylene Abiva, CEO/President of FELTA Multimedia Inc. and National Organizer of Philippine Robotics Olympiad (PRO)

In the Open Category of Elementary Level, Dr. Yanga’s College Inc. won Best Technical Award under the Special Awards Category while its High School level won the Best Creative Award and its College Level received Bronze Award.

First LEGO League World Festival.

The winners in the 2014 National competition of FLL represented the country in the FLL World Festival held on April 21 – 25, 2014 in St. Louis, Missouri, USA.

The Philippine delegation was composed of students from Dr. Yanga’s Colleges Inc., namely, Trisha Carmela Santos, Chelsea Andrea Morales, Anne Jazpher Raz, Rey Allen Infante, King Johnnel Olgado, Abbie Casalla, Jasper Alberto, Jessica Ricci Lapeña, Jan Marella Cruz and Anne Margaret Recinto. The Philippines ranked 1st Place in Project Presentation.

In the Philippines, FELTA Multi-Media Inc. is the National Organizer in partnership with the Science Education Institute and Department of Science & Technology, with the support of the Department of Education.

(Left) DYCI Primes 3.0 of Dr. Yanga’s Colleges Inc. bagged the Bronze Award for College Level Category during the 2015 World Robot Olympiad with (from left) Ms. Mylene Abiva CEO/ President of FELTA Multimedia Inc. and Dr. Josette T. Biyo, Director of DOST-SEI.

MORE YES AWARDEES RECOGNIZED.

DOST-SEI honored 468 elementary and high school students who have won gold, silver and bronze in international science and mathematics competitions, topping the previous high of 447 in 2013.

The Institute bestowed upon the student-medalists the Youth Excellence in Science (YES) Award, a DOST institutional award for exemplary achievement of the youth in the fields of science and mathematics.

Highlighting the outstanding achievement of Filipino students this year was the Silver award won by Adrian Reginald Sy of St. Jude Catholic School in the International Mathematics Olympiad (IMO) held in Singapore. This is the third time in 25 years of participation in the IMO that the Philippines won a Silver medal.

Saint Jude Catholic School had the most number of medalists followed by Philippine Science High School - Main Campus.



Adrian Reginald Sy of St. Jude Catholic School addressing his co-awardees and succeeding generation of math wizards to aim for the elusive Gold award in the next IMO.

(Right) A student of Dr. Yanga’s Colleges Inc. setting up his LEGO Robot to compete for the match.



The 2014 YES Awardees beaming with brilliance and confidence as they gather for a group picture together with SEI Director, Dr. Josette T. Biyo.

According to a Forbes analysis in 2014,

“half of the economic growth in developed countries in the last decade came from improved skills, highlighting the importance of skills development to growing an economy.” As the Philippines continues to power its way as one of the emerging markets that will eventually lead the world in terms of economic growth, it is becoming more imperative that our education system should integrate more strongly science and technology programs that will help push the development of critical thinking and skills among teachers and students.

STRENGTHENING CAPABILITIES IN SCIENCE AND TECHNOLOGY EDUCATION

DOST-SEI initiatives ensure the development of our intellectual and human capital necessary for responding to the critical national science and technology needs. By encouraging students, teachers, and faculty to participate in various science education programs, promoting the use of innovative classroom technologies, and providing step-by-step assessment strategies for our science, technology, engineering and mathematics workforce, the Institute is dedicated to strengthening the scientific literacy of our nation.

IMPROVING THE QUALITY OF FEEDERS CONTINUES WITH NEW INITIATIVES.

Enrichment Program goes deeper into remote areas.

Under the “Enrichment Program to Improve the Quality of Feeders to the S&T Human Resource Development,” a total of 1,357 fourth year students from 78 municipalities without DOST-SEI scholars participated in the mentoring program that was implemented from July to September 2014 in cooperation with the DOST Regional Offices in Regions 1, 2, 4A, 4B, 8, 11 and Cordillera Autonomous Region (CAR).

The students belonged to the top five percent of their schools and were interested in taking the scholarship examination and in pursuing careers in science, engineering and mathematics courses.

For this year, SEI proposed two modes of implementation in order to consider mentees coming from remote areas. Mode 1 involved the training of selected teachers with specialization in Science, Mathematics and English from the schools included in the identified municipalities without DOST-SEI examinees, to orient and familiarize them with the type of questionnaires given in the DOST-SEI Undergraduate Scholarship Examination. They in turn would mentor the fourth year students in their respective schools and the students from other schools in nearby municipalities.

The training was conducted by selected faculty members of Science, Mathematics and English subjects from Philippine Normal University (PNU), Saint Mary’s University (SMU), Palawan State University (PSU), Philippine Science High School-Eastern Visayas Campus and Ateneo de Davao University (ADMU). The trained teachers conducted mentoring classes in their respective schools and other schools from far-flung areas. It was implemented by DOST Regions 2, 4A, 4B, 8, 11 and CAR with 285 teachers trained as mentors.

In Mode 2, trained mentors from selected teacher training institutions (TEIs) and identified Philippine Science High School Campuses mentored the fourth year students directly. Selected faculty members from PSHS Ilocos Campus mentored 50 students from seven (7) municipalities in Ilocos Sur.

SEI provided the teacher-mentors and students with copies of Syensiyabilidad, a compilation of sample test items in Biological Science, Physical Science, Mathematics and Linguistic Ability on the following domains: Intellective Speed Test (Working Memory, Sensorimotor, Inspection); Intellective Power Test (Scientific Ability, Quantitative Ability, Mechanical-Technical Ability, Imagery, Linguistic Ability) and Non-intellective Test.

Project MOVE ON enters third year.

Aptitude tests and mentoring sessions were given to students of the 12 beneficiary schools under the Mindanao Opportunities for Vitalized Education and Onward Nurturing (MOVE ON) as it marked the second year of its three-year implementation. MOVE ON is an extension of the recently completed three-year project called the “Mindanao Opportunities for Vitalized Education and Upgrading of Science (MOVE UPS)”.

Project MOVE ON’s goal is to nurture pupils in Muslim dominated elementary schools and help them qualify in the National Competitive Examination (NCE) of the Philippine Science High School (PSHS) system to have a better chance at quality education.

In 2014, the program administered aptitude tests to 291 grade 5 and 377 grade 6 pupils in the following area schedules:

- Lanao del Norte - 25 June 2014
- Lanao del Sur - 24 June 2014
- Marawi City - 25 June 2014
- Maguindanao - 26 June 2014 (Nuro CES)
- 25 June 2014 (Simuay Junction CES)

Examiners and proctors were faculty members from the PSHS Central Mindanao Campus, Mindanao State University (MSU)-Marawi, MSU Maguindanao, DOST ARMM, DepEd Maguindanao II, and Cotabato City State Polytechnic College.

Mentoring sessions were also held in the following areas on the dates indicated:

- Lanao del Norte
 - 12 July to 29 September 2014
- ARMM Maguindanao
 - 29 August to 27 September 2014
 - 16 August to 27 September 2014
- Marawi City
 - 08 August - 20 September 2014
- Lanao del Sur II-B
 - 01 August - 13 September 2014

A total of 254 pupils (189 Grade 6 and 65 Grade 5) attended the mentoring classes. Mentors were faculty members from the PSHS CMC, MSU Marawi, MSU Maguindanao,

DOST ARMM, DepEd Maguindanao II, Felix A. Panganiban Academy of the Philippines, and Cotabato City State Polytechnic College. See Table 14 for the distribution of pupils who have been mentored.

TABLE 14: Distribution of MOVE ON Pupil-Mentees					
REGION/ DIVISION	SCHOOL	NO. OF PUPILS		GENDER	
				Female	Male
Region X Lanao del Norte	Kolambugan CES	Grade VI	15	11	4
		Grade V	5	3	2
		Total	20	14	6
	Balo-i, CES	Grade VI	17	8	9
		Grade V	5	2	3
		Total	22	10	12
	Sultan Naga Dimaporo CES	Grade VI	18	11	7
		Grade V	5	4	1
		Total	23	15	8
	Salvador CES	Grade VI	15	13	2
		Grade V	5	3	2
		Total	20	16	4
	Maria Cristina CES	Grade VI	15	9	6
		Grade V	6	4	2
		Total	21	13	8
	Kauswagan CES	Grade VI	15	9	6
		Grade V	5	0	5
		Total	20	9	11
Totals for Region X		Grade VI	95	61	34

REGION/ DIVISION	SCHOOL	NO. OF PUPILS		GENDER	
				DIVISION	Male
		Grade V	31	16	15
		Total	126	77	49
ARMM Marawi City	Marawi CES	Grade VI Grade V	17 6	13 6	4 0
		Total	23	19	4
	Amaipakpak CES	Grade VI Grade V	13 5	10 4	3 1
		Total	18	14	4
		Subtotal	41	33	8
Lanao del Sur II-B	Balabagan CES	Grade VI Grade V	15 4	7 3	8 1
		Total	19	10	9
	Jose Abad Santos CES	Grade VI Grade V	17 4	12 3	5 1
		Total	21	15	6
		Subtotal	40	25	15
Maguindanao	Nuro Upi CES	Grade VI Grade V	15 6	12 6	3 0
		Total	21	18	3
	Simuay Junction CES	Grade VI Grade V	17 9	13 6	4 3
		Total	26	19	7
Total for ARMM		Grade VI	94	67	27
		Grade V	34	28	6
		Subtotal	128	95	33
Total Grade VI			189	128	61
Total Grade V			65	44	21
GRAND TOTAL				254	



Administration of aptitude test in (Topmost) Maria Crisitna CES and (Above) Kauswagan CES in Lanao Norte



Teacher-participants actively take part during workshop activities.



Resource persons and participants of the Training of Trainers on Teaching Elementary Mathematics through Problem Solving.

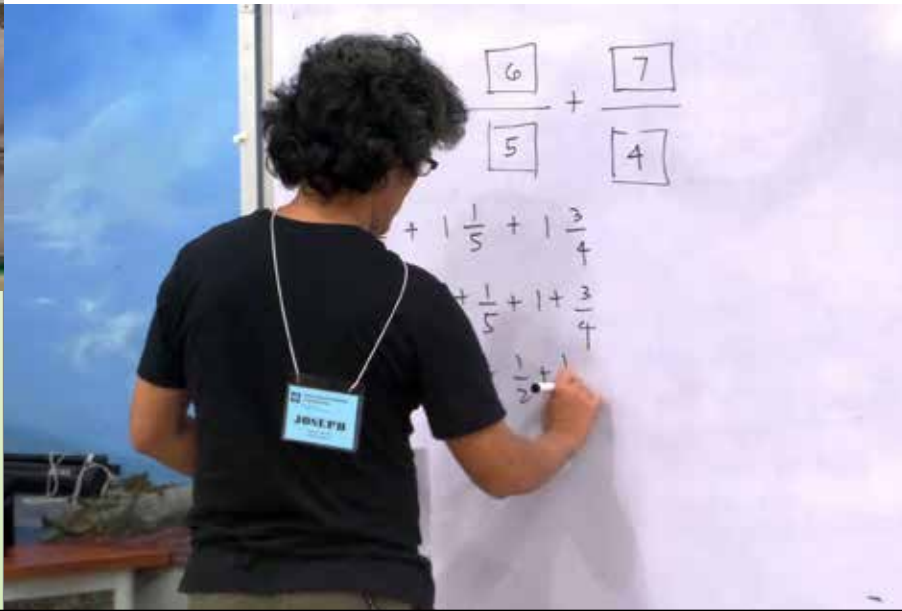
Of the 254 pupil-mentees, 216 took the PSHS NCE on 04 October 2014. Two pupils made it as principal qualifiers: (1) Xael Joshua J. Sagrado from Salvador Central ES in Lanao del Norte (Region X), and (2) Nathan Wayne F. Ariston from Nuro Central ES in Maguindanao (ARMM).

ACTIVITIES BUILD COMPETENCIES OF SCIENCE AND MATHEMATICS TEACHERS.

Science Teacher Academy for the Regions (STAR) held.

An organized scheme of training programs aimed to improve the teaching and learning of science and mathematics in the country with emphasis on content and pedagogy.

SySTEM Upgrade: A Teacher Training Program on Innovative and Strategic STEM Education. This is a one-day intensive training on innovative teaching practices aimed to improve the creativity and teaching-capability among teachers on Science, Technology, Engineering and Mathematic (STEM) education. It also showcased the SEI-developed math courseware and modules on inquiry-based science lessons for the elementary level. Education specialists from the UP National Institute for Science and Mathematics Education (UP NISMED) served as resource persons for the elementary level, while teachers from the Philippine Science High School (PSHS) System trained the teachers from secondary level.



The training was conducted at the PSHS Main Campus in Quezon City on July 26, 2014 as part of the 2014 National Science and Technology Week (NSTW). Participants comprised of 220 science and mathematics teachers from elementary and secondary schools from NCR and nearby provinces.

Teaching Elementary Mathematics through Problem Solving. Aimed at enhancing the capability of elementary teachers on the use of problem solving in teaching mathematics, the training also explained the K to 12 mathematics curriculum; the formulation of assessment items or tasks that assess higher order thinking skills; the development, implementation, critique, and improvement of a research lesson on teaching mathematics through problem solving; and the preparation of an action plan towards integration of the innovations introduced during the training.

The training was conducted in two parts: (1) Training of Trainers; and (2) the Regional Training for In-service Teachers.

1. Training of Trainers

The training of trainers was held on September 2-5, 2014 at the Teachers' Learning Laboratory of UP National Institute for Science and Mathematics Development (UP NISMED). Participants were faculty members of six (6) partner universities, namely: Mariano Marcos State University (Region I), Central Luzon State University (Region III), Philippine Normal University (NCR), Bicol University (Region V), West Visayas State University (Region VI), and MSU- Iligan Institute of Technology (Region X); and DepEd representatives from respective regions.



Signing the MOU for the Project STAR are: (First row, L-R) Dr. Fay Lea Patria Lauraya, President of Bicol University; Dr. .Ruben Sevilleja, President of Central Luzon State University; Dr. Eliza Samson, Dean at Mariano Marcos State University; Dr. Ester Ogena, President of Philippine Normal University; Dr. Josette Biyo, Director of Science Education Institute-DOST; Dr. Macabangkit Ati, Vice-President for Planning & Development of Mindanao State.

TABLE 15: Regional Training for In-Service Teachers		
Region	Training Venue	Dates
I	Mariano Marcos State University Laoag, Ilocos Norte	November 19-21, 2014
III	Regional Education Learning Center Angeles City	November 25-27, 2014
V	Bicol University Legazpi City	November 26-28, 2014
VI	West Visayas State University Iloilo City	November 12-14, 2014
X	MSU- Iligan Institute of Technology Iligan City	November 4-7, 2014

Participants comprised 17 faculty members from TEIs and 4 representatives of DepEd regional offices.

2. Regional training for In-service Teachers

Faculty members of Teacher Education Institutions (TEIs) and DepEd representatives served as trainers and resource persons during the regional trainings for public elementary mathematics teachers held in the following dates and venues (See Table 15). A total of 250 mathematics teachers

in the elementary level were trained in the five universities stated above.

Signing of the Memorandum of Understanding for the project STAR. A Memorandum of Understanding (MOU) between the Science Education Institute and the six partner universities was signed on December 3, 2014 at the Luxent Hotel in Quezon City. It sealed the partnership in conducting projects and activities geared towards improvement of science and mathematics education in the country.



(Above) Dr. Artemio Seatriz, trainer from MMSU, discussing the answer to a math problem.

(Topmost) Teacher-participants of Iligan City showcase how to teach mathematics through problem solving during their demo teaching.



Seminar teaches Disaster Risk Reduction and Management (DRRM).

Thirty-five (35) selected science and mathematics teachers from the Division of Taguig and Pateros benefited from the intensive seminar-workshop on Disaster Risk Reduction and Management (DRRM). The activity aimed to enhance the scientific knowledge of teachers on natural disasters and disaster response and integrate these in their science and mathematics subjects, as well as capacitate them on how to implement disaster management plan for the school. It was conducted on April 22-25, 2014 at the ITDI conference room, DOST compound in Bicutan, Taguig City.

Experts from the Office of Civil Defense-NCR, PAGASA, PHIVOLCS, DENR- Mines and Geosciences Bureau, and Philippine Red Cross served as resource persons. The topics discussed included the legal framework of the Philippine DRRM System, disaster risk profile of the country, natural disasters and their hazards, climate variability and climate change, and life-saving skills during disasters. The participants were also trained on how to inspect buildings for hazards, conduct earthquake drill, read hazard maps, weather bulletins and advisories, and to track typhoons. The participants also visited PAGASA and PHIVOLCS offices in Quezon City to learn the different equipment and operations used for weather forecasting, recording earthquakes and volcanic eruptions.

“Publish or Perish” concludes four-year series.

A three-day training entitled “Publish or Perish” was held on March 10-13, 2014 in San Mateo, Rizal. This activity was the

fourth and last of a series of trainings and activities for science and mathematics of faculty members of teacher education institutes (TEI's) classified as Center of Development (COD) by the Commission on Higher Education (CHED). The training aimed to enhance the capacity of faculty members in packaging research papers for publication and update them on the requirements of various local and international refereed journals.

There were 27 participants from the following universities:

- Catanduanes State University
- Cebu Normal University
- Central Bicol State University of Agriculture
- Holy Angels University
- Pangasinan State University
- Western Mindanao State University
- Xavier University
- Ateneo de Davao
- University of San Agustin

In 2011 and 2012, the training exposed the participants to local and global trends in Science and Mathematics Education and on the research process, respectively. On the third year, they were trained on how to package a research proposal for DOST funding. The top three (3) research proposals were granted a research funding for implementation of the project that same year. After completion of the research, the authors presented their research output in an International Conference held at the UPNISMED in October 2013.

Resource persons were Professors Edwehna Elinore Gayon and Rachel Patricia Ramirez from UP College of Education and UP Integrated School, respectively. At the end of the training eighteen (18) papers were completed in publishable form.



(Top -Bottom) Participants forecast the path of a typhoon during the Typhoon Tracking Workshop.

Mr. Ace Alvarez of the Philippine Red Cross demonstrates how to carry and transfer people during emergency.

Technical Visit of Dr. Renato Solidum Jr., Director of PHIVOLCS, presents how the agency monitor earthquakes.

(Right) Participants of the “Publish or Perish” seminar-workshop.

Workshop improves productivity of Senior Citizens.

With the goal of elevating the role of Filipino senior citizens from passive beneficiaries to self-reliant, highly motivated, and productive members of society, a two-day workshop dubbed as “Kaya Ko Pa!” was conducted among 40 science and mathematics teachers in Tacloban City and 10 DOST Regional Office VIII staff who are 60 years old and above.

The workshop included discussions and demonstrations on promoting healthy lifestyle, health management, entrepreneurship and effective response during emergencies. Resource persons were experts from office of the Senior Citizens Affairs, Department of Health, and DOST regional offices. All the participants were given a shot of pneumococcal immunization for free.

Teachers educated in handling visually impaired students.

A one-day forum aimed at sharing to teachers new innovations in handling students with visual impairment was conducted on July 22, 2014 at the Food and Nutrition Research Institute (FNRI) building. The program was facilitated by Herminia Aagsaoay, a SPED teacher, and Joyce Lopez, a visually impaired staff from the Resources for the Blind, Inc. (RBI).



Among the highlights of the program was the demonstration teaching by one elementary and one secondary teacher, wherein visually impaired and regular students participated. The practical tips and techniques shared helped the teachers in terms of dealing with their visually impaired students inside a regular classroom.

Everyone was inspired with the message of Ms. Roselle Ambubuyog, a very successful visually impaired student and the first blind student of Ateneo de Manila University who graduated Summa Cum Laude in BS Mathematics.



(Above) Visually Impaired Students performing actual science experiment.

(Right) A regular student assisting a visually impaired classmate during an actual science experiment.



(Above, Clockwise) Activities include: Demo on effective response during emergencies; elderly strengthening program; and immunization.



Science and Mathematics teachers enhance skills in Training Programs.

Various activities were conducted in 2014 to enhance the professional skills of Science and Mathematics teachers as well as SEI officials and employees and help them meet the new and changing demands of science and mathematics education.

Under this project, the following specialized trainings/workshops for science teachers were conducted:

- 1. "PCC Omics School: Genomics and Proteomics". In partnership with the Philippine Federation of Chemistry Societies (PFCS), SEI sponsored the participation of 10 attendees to the workshop held at Villa Caceres Hotel in Camarines Sur on April 9-11, 2014 during the 29th Philippine Chemistry Congress.
- 2. "Microbiology: A Closer Look". This Lecture-Workshop on Research Methods in Microbiology was conducted by the Institute of Biology, College of Science, UP Diliman on 26-30 May 2014. It was aimed at training Biology and/or Research high school teachers on microbiological principles and laboratory techniques in preparation for the K to 12 Program.

3. The activities included both formal and interactive discussions, introduction to basic microbiological techniques, basic microscopy, writing and performing investigatory projects, and laboratory activities that included proper microbiological sampling techniques, culture isolation and preservation following aseptic techniques, and plasmid profiling—a more advanced technique of characterization and a molecular technique known as genetic transformation.

To broaden their choices of organism in doing microbial researches, participants surveyed eukaryotic microorganisms by examining prepared slides of fungi and algae. Lastly, the participants were introduced to phylogenetic Tree construction and bioinformatics—a system that helps in organizing, analyzing, and presenting scientific data.

Participants included 14 female and six male teachers.

4. "49th Annual BIOTA (Biology Teachers Association of the Philippines, Inc.) Convention and Scientific Sessions". The BIOTA Convention aimed to share research findings, teaching practices and experiences in the implementation of innovations in biology education to support curriculum reforms in different educational levels. The event was held at the University of Baguio, Baguio City on April 3-5, 2014 with 33 Biology teachers in attendance.

To establish linkages and give SEI officials and employees opportunities to participate in international conferences, SEI also renewed its membership to the International Association for the Evaluation of Educational Achievement.

Project HOTS gets hotter.

To help in the development of their science lessons incorporating an inquiry-based approach, 2 district science coordinators, 16 Grade 4 teachers and 1 assistant principal participated in the expanded Project Hands-On Teaching and Learning Science through Inquiry (Project HOTS) from May 20-23, 2014 at the UP NISMED. The seminar-workshop was similar to the first but with the addition of sessions on constructivism as a philosophy of teaching/learning underpinning the inquiry-based approach and a workshop on the forms of assessment appropriate for such an approach.

The participants came from Tenement Elementary School, Upper Bicutan Elementary School and Tenement Elementary School. They were joined by the district coordinators and the education program specialist of DepEd Division of Taguig City-Pateros.

A second phase, which served as the follow through of their collaborative lesson planning was implemented in the three schools at

different dates within 2014. The inquiry-based science lessons developed during the science training were implemented in Upper Bicutan Elementary School, Tenement Elementary School and Ricardo P. Cruz Sr. Elementary School of the DepEd School Division of Taguig City and Pateros.



(Top to Bottom) Ms. Amparo F. Olarte, Supervising Science Research Specialist presented Project HOTS during a parallel session at the International Conference in Science and Mathematics Education 2014 on October 29-30, 2014 at NISMED, UP, Diliman, Quezon City.

Grade 4 pupils from R.P. Cruz Elementary School examined the seeds and recorded their observations for their lesson on Seed Germination.

Ms. Amparo F. Olarte, Supervising Science Research Specialist, presents Project HOTS during a parallel session at the International Conference in Science and Mathematics Education 2014 on October 29-30, 2014 at NISMED, UP, Diliman, Q.C.

(Left) Grade 4 Pupils from Upper Bicutan Elementary School examine the changes in the characteristics of sugar during the lesson on "Characteristics of Solid Before, During and After Heating".

(Below) Lecturers, facilitators, and participants of the project entitled "Microbiology: A Closer Look (Lecture-Workshop on Research Methods in Microbiology)" last 26-30 May 2014.



(Right) Participants receive trainings on basic laboratory skills and molecular techniques such as using micropipettes, operating gel electrophoresis, extraction of DNA material, and simple biotransformation experiment. (Top Right) Participants performed experiments using modern equipment in the University of Philippines, Institute of Biology DNA Barcoding Laboratory.



MORE INNOVATIONS
IN SCIENCE AND
MATHEMATICS
EDUCATION UNVEILED.

Development and pilot testing
of Mathematics Courseware
completed.

Grades 2-6 pupils and 50 Mathematics teachers of 20 public elementary schools became the beneficiaries of the digitized learning materials designed to improve the learning and performance of students as well as enhance the content knowledge, pedagogical capacity and critical thinking skills of the teachers in teaching mathematics.

DOST-SEI's project partners The Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD) and Advanced Science and Technology Institute (ASTI) facilitated the provision of netbooks with the Interactive

Courseware. Each school received 25 units of netbooks.

The 50 mathematics teachers first underwent a one-week training on the use of the netbooks and familiarization of the Interactive Courseware on January 27-30, 2014 at the DepEd Regional Educational Learning Center (RELC) (See Table 16).

The complete Interactive Courseware package contains 44 modules. The digitization of the first batch of 24 modules comprising 3rd and 4th quarter lessons was completed in 2013 and pilot tested from February to March 2014, immediately after the training of the teachers. After the digitization of the remaining 20 modules for the 1st and 2nd quarter lessons, the second batch of pilot testing was conducted from August to September 2014.

The 44 modules were finalized after the pilot testing and the complete package in one CD was replicated for distribution. The Techno Package was launched on December 2, 2014 at Luxent Hotel, Quezon City.

TABLE 16: List of elementary schools and number of teachers trained on the use of interactive mathematics courseware and netbook			
REGION	Schools	Province	No. of Teachers Trained
I	Pozzorubio Central Elementary School	Pangasinan	2
II	Tuguegarao West Central School	Cagayan	3
III	Dinalupihan East Central School	Bataan	3
	Muñoz Central Elementary School	Nueva Ecija	2
	Gregorio H. Del Pilar Elementary Sch.	Bulacan	2
IVB	Jose L. Basa Central School	Oriental Mindoro	3
	Mateo Jagmis Elementary School	Puerto Princesa City	2
V	Caramoan Central School	Camarines Sur	3
	Gubat North Elementary School	Sorsogon	2
VI	Kalibo Pilot School	Aklan	3
VII	Sta.Catalina Central School	Negros Oriental	3
	Tagbilaran Central Elementary School	Tagbilaran City	2
IX	Dipolog Pilot Demo School	Dipolog City	3
XI	Davao City Special School	Davao City	3
	Magsaysay Central Elementary School	Davao del Sur	2
XII	Surallah East Elementary School	Koronadal City	3
	Malinta Elementary School	Valenzuela City	3
NCR	Goodwill Elementary School	Quezon City	2
	Lepanto Elementary School	Benguet	2
CAR	Lepanto Elementary School	Benguet	2
CARAGA	Buenavista East Elementary School	Agusan Del Norte	2
TOTAL			50



Pilot Testing of Grade 5 Mathematics Courseware held at Gregorio del Pilar Elementary School, Bulacan, Bulacan on August 27-28, 2014.

Secondary Level Science and
Mathematics Interactive
Courseware launched.

Interactive Courseware for Grades 7 and 8 were also launched on December 2, 2014 at the Luxent Hotel in Quezon City.

The Grade 7 courseware contains 132 modules, 73 in Science and 59 in Mathematics. Topics in Science include Matter; Force, Motion, and Energy; Living Things and Their Environment; and Earth and Space. Topics in Mathematics include Numbers and Number Sense; Patterns and Algebra; and Geometry.

The Grade 8 courseware contains 117 modules, 57 in Science and 60 in Mathematics. Topics in Science include: Parts and Functions; Ecosystems; Heredity Inheritance and Variation of Traits;

Structures and Functions; Evolution; and Biodiversity. Topics in Mathematics include: Linear Equations; Quadratic Equations; Rational Algebraic Equations; Integral Exponents; Radicals; Arithmetic Sequence; and Geometric Sequence.

More than a hundred participants from the University of the Philippines National Institute for Science and Mathematics Education Development, Department of Education, Philippine Science High School, Knowledge Channel, and different public secondary schools received the two sets of courseware.

These sets of courseware were also uploaded to the courseware website (www.courseware.dost.gov.ph) and are available for free download. They will also be replicated in 2015 for dissemination to more secondary schools nationwide.



Training of Teachers on the Use of Interactive Courseware for Grades 2-6 Mathematics conducted on January 27-30, 2014 at the DepEd Regional Educational Learning Center (RELC).



(Above) Hands-on viewing of Courseware by teachers.

(Right) Grades 7 and 8 Courseware in DVD Format.

Evaluation of the Effectiveness of CAI Modules in Mathematics for Intermediate Grade Schools.

The SEI-funded project was implemented by the Lasallian Institute for Development and Educational Research (LIDER) of De La Salle University (DLSU) in June 2013 and completed in September 2014. It is aimed at evaluating the effectiveness of the DOST-

SEI CAI modules as perceived by the end users (teachers and pupils) in public schools in the Metro Manila area.

The results showed that CAI modules are effective in teaching and learning mathematics for intermediate grade schools. However, various recommendations from the end-users were considered to further improve the CAI modules.



SEI Director Dr. Josette T. Biyo with some of the SEI and ASTI Courseware Staff.

Mobile IT Classroom (MITC) Project gets equipment upgrade.

The Mobile Information Technology Classroom (MITC) is a customized bus equipped with laptop computers, interactive and audio visual learning materials in Science and Mathematics. There were three (3) MITC buses deployed in Region 5 (Camarines Sur), Region 7 (Cebu), and CARAGA (Surigao del Norte) to promote IT awareness through hands-on computer and other interactive learning activities to elementary and secondary students and teachers.

Upon inspection, it was recommended that the on-board laptop computers, printer and LCD projector of the MITC bus deployed in Camarines Sur be replaced. The Partido Development Administration (PDA) and DOST-SEI replaced the said equipment in the same year.

Another MITC bus deployed in Cebu City was pulled-out and shipped back to SEI. The Memorandum of Agreement between the Local Government of Cebu and SEI expired in June 2013. Likewise, another MOA among the SEI, Local Government of Surigao del Norte, Department of Education-Division of Surigao del Norte, and DOST-Caraga expired in November 2013. The bus and its facilities were turned over to the Office of the Governor of Surigao del Norte for safekeeping.

2nd Search for Innovative Practices in Managing Large Classes conducted.

Two project teams emerged as winners in the second round of implementation of the search for innovative practices in managing large and extra large classes.

One is from Surigao City National High School, Surigao del Norte with the winning innovative practice dubbed "Beating the Numbers through Strategic Intervention Materials (SIM): Innovative Science Teaching in Large Classes." The other winning team is from Tabaco National High School, Albay for its "Effectiveness of Chem-Connect Project in Managing Large Classes in Chemistry."

Each of the teams received P100,000 cash prize, plaque and certificate.

The quest was open to all public and private high schools with large (L) and extra large (XL) classes. An L class has 51 to 70 students while an XL class has 71 or more students. The goal is to inspire science and mathematics teachers in public and private secondary schools to innovate their practices in managing large classes and to share with other schools how to implement these best practices.

The winning practices were identified after administration of pretest, two quarters of implementing the innovations, thorough



(Above) Turn-over of 16 units of brand new laptop computers to Partido Development Administration at Tigaon, Camarines Sur. The said computer units will be used for the implementation of the MITC project at Camarines Sur.

(Topmost) The MITC bus with plate number SGJ 141 currently stationed in Camarines Sur.



The MITC bus with plate number SFK 514 currently deployed in Cebu.



(Clockwise) Students from Calamba Bayside National High School of Laguna enthusiastically showed the booklets after finishing the post-test;

Project Leader Ronaldo Reyes of Tabaco NHS accepted his award for the most innovative practice in managing large classes;

Venus-Metilla Alboruto, Project Leader of Surigao City NHS presented her winning innovative practices in managing large classes during the International Conference in Science and Mathematics Education on October 28-30, 2014 at NISMED, UP, Diliman, Quezon City;

The Project Team of Surigao City NHS received the cash prize of P100,000, plaque and certificate from Dr. Josette T. Biyo (SEI), Dr. Jocelyn Andaya (BSE-DepEd) and Usec. Fortunato T. dela Peña (DOST).

conduct of those monitoring visits, administration of post-tests to nine school finalists, review of technical and financial reports, and other processes. The finalists and winners were recognized during the awarding ceremonies on August 15, 2014 at the STTC Auditorium, UP-NISMED, Diliman, Quezon City.

The two Most Innovative Classroom Management Practices were presented during the International Conference in Science and Mathematics Education on October 28-30, 2014 at UP-NISMED, Diliman, Q.C.

STOCK AND MOBILITY OF S&T HUMAN RESOURCES.

S&T Human Resources study published.

A technical report was prepared and published in 2014 regarding a benchmark study estimating the number of S&T human resources in various professions. Such data can be used to give policymakers a better understanding of the country's demand for and supply of personnel in S&T, and enable them to craft policies toward investing in human capital.

Estimates were established using the 1990, 2000, and 2010 census data from the National Statistics Office (NSO), which is now part of the Philippine Statistics Authority (PSA).

The report revealed that the most numbered S&T professions were nursing and midwifery, followed by engineering and related professions, as well as health professions. On the other hand, the least numbered S&T occupations were mathematicians, statisticians and related professions, followed by physicists, chemists and related professions, as well as life science professions.

While the number of S&T professionals increased over the three survey periods, those in some sectors noticeably declined. There was a huge drop recorded among mathematicians, statisticians, physicists, chemists, and related professionals. An enormous increase was observed among computer professionals as well as nursing and midwifery professionals, while the number of engineers, architects and related professionals also posts steady growth (See Figure 4).

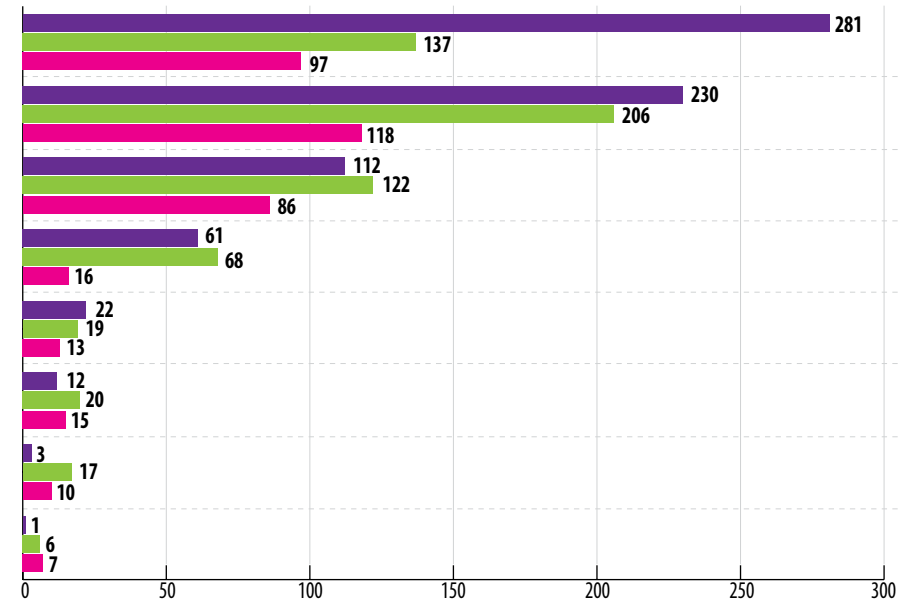


FIGURE 4. Distribution of HRST by Occupational Group: 1990, 2000, and 2010

S&T Human Resources Migration study updated.

The professions with the most number of practitioners – nursing and midwifery – has also been shown across the years to have the highest number of professionals leaving the country.

This finding is based on the study detailing the extent of S&T skills migration which was updated in 2014 covering the period 2005-2013. The study has two components, namely: 1) Emigration of Science and Technology-Educated Filipinos (Permanent Migrants), 2) OFWs with S&T occupations (Temporary migrants). Secondary data from POEA for the temporary migrants and CFO for permanent migrants were utilized.

The next biggest group of S&T professional migrants include engineers and related professionals, as well as health professionals. In terms of number, the engineering professional group apparently increased from around 3,000 in 2005 to almost 11,000 in 2011, then, slightly dropped in 2012 (8,596) and in 2013 (7,337). On the other hand, the group of health professionals had negligible change through the years (See Figure 5).

Other details of the study will be included in the published report to be released upon completion of data gathering and analysis phase of the migration study in 2015.

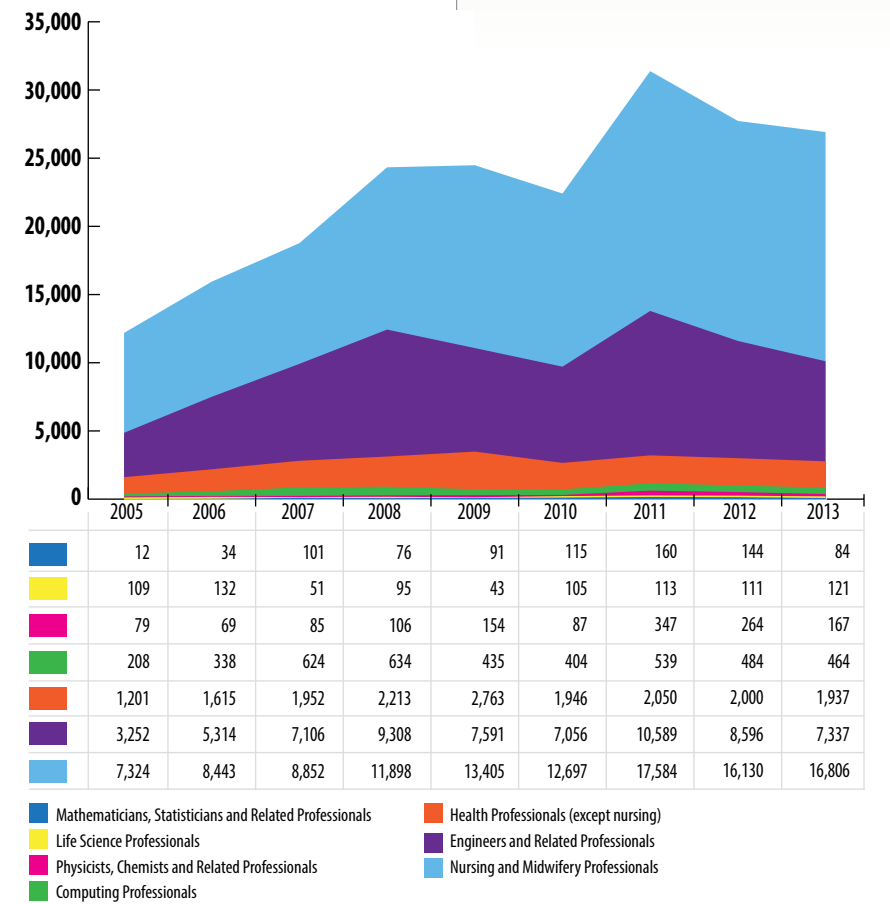


FIGURE 5. Distribution of S&T Temporary Migrants (OFWs) by Occupational Group: 2005-2013

Tracer Study of DOST-SEI Scholar Graduates intensified.

Tracking the scholar-graduates of the various scholarship programs being implemented by the DOST-SEI is a continuing activity of the Institute. Tracer Forms were distributed to various DOST attached agencies, including Regional Offices in cooperation with the Scholarship Project Staff of various regional DOST offices. A total of 496 accomplished forms were collected, reviewed and encoded. To intensify the data gathering, an on-line web based survey form using googledocs technology, including EXCEL and PDF version were being designed as alternative strategies for data collection, while the development of an information system of the project is still on-going.

The study aims to assess the effectiveness of the scholarship programs and provide inputs in determining policy recommendations that will improve the administration of the scholarship programs and the status of the country's S&T sector.

Feedback Survey Questionnaire given to 2015 S&T Undergraduate Scholarship applicants.

During the scholarship application period from August to September 2014, feedback questionnaire forms were distributed to the applicants with the goal of providing valuable inputs to help improve the administration of the scholarship programs being offered by the Institute, and the conduct of application process in particular. This survey was conducted in coordination with the Scholarship Division.

A total of 862 accomplished Feedback questionnaires were retrieved by the end of the application period. The completed report will be available by end of December 2015.

Exit Survey questionnaire disseminated.

Considering the increasing number of DOST-SEI scholars who have benefited from the scholarship program every year, a feedback mechanism dubbed the Exit Survey questionnaire was developed and distributed to various network institutions and DOST Regional Offices by end of September 2014. The goal was to provide information about the conduct of the scholarship program, its relevance to the scholars' personal

lives, and recommendations regarding its implementation and management that would help legislators, academe, researchers, and SEI management.

A total of 63 accomplished Exit Survey questionnaires were retrieved by end of December 2014 from the first batch target network institutions. About 95% of the graduating scholars responded to the survey among those network institutions who submitted the accomplished questionnaires. The data collection/distribution and follow-up of Exit Survey questionnaires from other network institutions is on-going. The data processing and analysis will be done in 2015.

DOST-SEI EVALUATES SELECTED PROJECTS.

The institute recognizes the need to evaluate event-oriented projects to further improve their implementation in the future. Below are some of the findings for each project evaluated.

Innovation and Climate Science Camp

The 2014 Science Camp, sponsored by Hyundai Asia Resources, Inc. Foundation, consisted of Geology and Marine Science camps, each of which was evaluated using separate tools.

Profile of Campers

The Science Camp drew the participation of 40 students and 20 teachers from 20 high schools from Region III, Region IV-A, and NCR. Most of these were public high schools. More than half (57.5%) of the students were boys, while only one male teacher was among the 20 teachers.

Geology sub-camp

Using a 4-point Likert scale, the top five factors out of 24 statements assessed by campers were the following: 1) *I enjoyed doing the field activities* (3.97); 2) *The facilitators are friendly and accommodating* (3.97); 3) *The speakers have mastery of the subject matter* (3.90); 4) *I learned a lot from the field activities* (3.90); and 5) *The topics are relevant to my teaching* (3.88).

Among the factors with relatively low scores were: *The topics are relevant to my*



Dr. Aletta Yñiguez, Camp Director of Marine Camp orients the students on sea safety during the exposure trip.

decision on what to take in college (2.75); *I intend to pursue a career in science because of the camp* (3.13); *I felt like a scientist because of the camp* (3.42); *The topics discussed presented refreshingly new science concepts* (3.52); and *The field activities are well-organized* (3.53).

The first two factors with low scores indicate that the students already have preconceived interests and attitude towards science that cannot be easily altered by one-time activities. It has been recommended that this camp should also accommodate lower year levels instead of only fourth year high school students. The earlier their exposure to these activities, the more likely they will be influenced to take Science courses in college.

Six out of ten campers rated their overall experience as "well above expectations." Nobody gave a negative rating. Thematic analysis of responses to open-ended questions on other comments and suggestions revealed 34 positive remarks, 29 commendations, and 5 grateful remarks. There were 14 suggestions raised, particularly about extension of camp duration, holding more engaging activities, and considering other places for future camps.

Marine Science sub-camp

Using the same 4-point Likert scale, the top 5 factors assessed by campers were the following: 1) *I learned a lot from the field activities* (3.97); 2) *The security and welfare of the participants*

were considered in the conduct of camp activities (3.95); 3) *I enjoyed doing the field activities* (3.95); 4) *The topics are relevant to my teaching (for teachers)* (3.95); and 5) *I learned new things about science at camp* (3.93).

Factors with low scores were mostly the same as in the Geology sub-camp. Likewise, six out of ten campers rated their overall experience as "well above expectations" with no negative rating. Open-ended questions on comments and suggestions revealed 27 positive remarks, 22 commendations and five grateful remarks. Fourteen suggestions were raised, particularly about extension of camp duration and longer time for field activities such as snorkeling and coral reef exposure.

World Space Week 2014

Global Navigation Satellite lecture and hands-on activity

Using a 3-point scale, relatively low scores were given to the following statements: *The forum encouraged me to pursue a career in space science in the future* (2.57); *The time allotted for the forum was just enough* (2.64); *The forum increased the level of my interest in Space Science* (2.66); *I understood the ideas/concepts being portrayed in the hands-on activities* (2.67); and *The keynote speaker had a thorough grasp of the subject* (2.97).

Dr. Rogel Mari Sese, Focal Person for PSSEP shares his knowledge and enthusiasm with high school students from Palawan to inspire them to get into STEM courses by explaining the career opportunities related to space science.



Among the aspects with high scores were the following: *The venue was appropriate for the activities (2.94); Generally, the event was well-planned (2.92); The facilitators were efficient, helpful and accommodating (2.92); The keynote speaker ably answered the questions posed (2.90); and The keynote speaker actively invited questions (2.90).*

Eight out of ten participants rated that event above their expectations. Other comments and suggestions from students were mostly positive and congratulatory remarks. Practical suggestions focused on improvement of food choices, no serving of food during hands-on activity, and provision of presentation handouts.

Training on Water Rocket making

Highly rated statements on this activity were the following: *Generally the training was well-managed (2.90); I learned a lot from the training (2.88); The venue was appropriate for the activity (2.87); The facilitators were efficient, helpful and accommodating (2.85); and The trainer came prepared for class (2.80).* Six out of ten participants rated the event above their expectations.

Astronomy for Filipino educators

The teacher-participants gave high scores to the general management of training, the preparedness of trainer and his mastery of the subject matter, and efficiency and friendliness of facilitators. However, lowest score was given to the length of training time. Overall, 64% rated that the training was above their expectations. When asked if they can apply what they learned from the

training, all said “yes.” Their responses to open-ended questions were mostly grateful and commendatory. Among the suggestions raised included the extension of training and provision of handouts.

Water Rocket-launching competition

Using a 3-point scale, the participants gave high ratings to the statements: *The organizers secured the safety of participants during the competition proper (2.94); I had fun participating in the competition (2.94); The judges were fair in deciding the winners (2.92); Group activity enhanced a sense of cooperation and unity among members (2.88); The activity promoted a learning and healthy competition (2.88).* The statement about the clarity of guidelines of the competition garnered the lowest rating.

Poster Making contest

Participants gave a perfect score to the statement: *Isang magandang karanasan ito na nagbigay sa akin ng interes sa science lalo na sa Space Science.* Statements with high ratings were: *Maliwanag ang panuntunan sa on-the-spot poster making contest (4.90); Nag-enjoy ako sa paggawa ng poster (4.77); Tama ang desisyon ng mga hurado sa mga nanalo sa poster making (4.77).* A relatively low score was given to the statement: *Ang tema sa poster making ay angkop at napapanahon.*

#Push4Science Campaign

More than half of students (65.2%) reached by the campaign did not know about DOST-SEI scholarship programs. Fifty-eight percent (58%) of those with prior knowledge of the

programs obtained the information from their teachers, while others learned about these through their friends/acquaintances, the internet and posters.

Forty percent (40%) of those who learned about the scholarship through the campaign changed their initial preferred courses to S&T related ones. Among the courses they planned to take include: Education major in Science and Mathematics, Engineering, Environmental Science, Geology, Information Technology, and Statistics. Nine out of ten students wanted to apply for the DOST-SEI scholarship after learning about it and its privileges. Possibly hindrances to applying for the scholarship were identified as the following: financial constraint for transportation expenses; difficulty in securing the requirements; distance to application and test centers; parents’ reluctance to let them study far away from their homes; their choice is not a priority S&T course; and low interest/grades in Science and Mathematics subjects.

Science Explorer

Students participating in Science Explorer activities gave high rating for the statement: *Nakatutuwa ang mga ginawa naming sa Science Explorer (4.88).* Least agreement was given to the statement: *Nagkaroon ako ng interes na maging scientist o engineer balang araw (4.28).* This indicates that

more effort must be exerted to develop awareness and interest in science and mathematics. More elementary students gave this statement a higher rating than high school students, indicating that sustained effort must be made to maintain interest in science starting at a young age. A significant number of students suggested additional topics related to Space, Planets and Universe (18%), while other topics included Robotics (18%), Modern Technology (14%), Plants and Animals (7%) and Matter & Chemistry (6%).

Tagisang Robotics

Almost all participants, both students and coaches, gave positive ratings to the event. The top five highest rated aspects included the following: Appropriateness of venue for the competition; sense of tecm spirit and esprit de corps; conduciveness of venue for training; performance of assigned roles; and clarity of each member. Low rated aspects included: support given by the community and school; usefulness of instructions given in the website; technical advice given by engineers; and adequacy of time given in the competition.

Notably, there were 14 cases of students who changed their initial choice of college course to pursue science. Engineering, Information Technology, and Computer Science were among the S&T courses they identified.



The Push4Science Team with the campaign participants.

Success in building technology capacity is greatest when it is anchored to an explicit national science and technology strategy. If implemented flexibly and carefully, its integration with the needs of the country's education system and its development priorities will make such linkages produce direct positive impacts on our daily lives.

CREATING COMMUNICATION AND INFORMATION LINKS

While investments in ICT have vast importance, these should be complemented by concomitant investments in human capital training and strengthening of established networks. Bridging the technological and social empowerment spheres is critical in enabling inclusive growth, overcoming illiteracy, enhancing productivity, and improving the welfare of the common citizen.



Students line up to take a look at the SEI exhibit durin the 2014 National Science and Technology.



INFORMATION NETWORK SYSTEMS UPGRADED.

To keep pace with the demands of its operations, DOST-SEI invested in the enhancement of its network infrastructure and of the IT skills of its workforce. The Institute’s internet connection was upgraded from 12 Mbps to 18 Mbps to provide faster and more reliable speed, while seven new network switches were acquired to replace the outdated distribution switches and speed up the transfer of data within the Institute’s LAN.

License productivity software such as Microsoft Office, Adobe Photoshop and windows operating systems were acquired to provide for special network users’ requirements. Storage disks and back-up devices were also installed to give more room for electronic files building up as the institute expands its operations.

The MIS unit continued to administer **www.sei.dost.gov.ph**, the agency’s website; **www.tagisangrobotics.ph**, the portal of the Tagisang Robotics project that enhances the capabilities of high school students in robotics; and **www.science-scholarships.ph**, the portal of the scholarship program of the agency. The contents of all these websites are fed to the MIS unit by different units of the Institute.

The MIS staff also participated in committees inside and outside of the Institute’s network of linkages. These include memberships to the DepEd’s Bids and Award Committee II – Technical Working Group that evaluates the demo units of prospective suppliers for the DepEd’s Computerization Program for their nationwide e-Classroom Project and the DOST Central Office’s Bids and Awards Committee, and the Technical Working Group for ICT that evaluates all the ICT-related acquisition of the DOST. The MIS personnel was also part of the SEI’s Inspection Committee for the inspection process of all the purchases of the Institute and the Technical Evaluation Team for the ICT-related purchases of the Institute.

Technical support for the IT network users of the Institute was continuously provided to ensure functional efficiency.

SEI Director Dr. Josette T. Biyo gets interviewed by the media at the lauch of the 2014 World Space Week in Puerto Princesa, Palawan.

STRATEGIC COMMUNICATION PLANS IMPLEMENTED FOR SCIENCE EDUCATION.

Several media-based strategies were implemented in 2014 as part of DOST-SEI’s strategic communication plan to promote youth science programs, enhance the interest of students taking up STEM courses and promote S&T to the general public.

The news articles sent out to different media outlets made 96 placements in broadcast, print and cybermedia (*See Figures 6 & 7*).

The agency also participated in the 2014 National Science and Technology Week with the theme “*Philippines: A Science Nation Meeting Global Challenges.*” SEI, together with the National Academy of Science and Technology (NAST) and the Philippine Science High School System, put up an exhibit depicting the achievements the agencies have achieved under “*DOST Outcome 7: Highly Skilled and Globally Competitive S&T Human Resources in Support of the National S&T Programs.*”

The exhibit generated a total of 2,057 viewers including those from the regional S&T cluster exhibits participated by SEI in Legazpi City, Albay; Tuguegarao City, Cagayan; Mandaue City, Cebu; and Davao City.

SEI also successfully conducted the “Scholars’ Night,” an evening of honoring the top DOST scholars of the country in a program of testimonials and entertainment. Top scholars graced the event and gave words of wisdom to budding scholar graduates who were about to take on major roles in the Philippine science community. Actor-entrepreneur Christian Jeffrey Hidalgo, academician Dr. Reynaldo Vea, and DOST Region IX Director Dr. Brenda Nazareth gave talks on the role of science in entrepreneurship, the academe, and government, enlightening the audience on the importance of science in these fields. The Institute also used traditional media channels to give out information to the general public. It published the DOST-SEI Institutional brochure and program brochures for the Science Camp, Science Explorer and the Tagisang Robotics. DOST-SEI also produced a mobile exhibit and a

corporate audio-visual presentation that will help make the public know more about SEI and the projects it undertakes.

SEI also conducted the 2014 Science Film Festival, an annual film exhibition that uses science films to entice the youth to get into careers in science. A total of 18,610 students

viewed the films in all DOST regional offices and five Philippine Science High School campuses.

SEI maintains social media accounts for its different programs, reaching as much as 102,024 netizens. The SEI official website also got to 60,000 viewers in 2014.

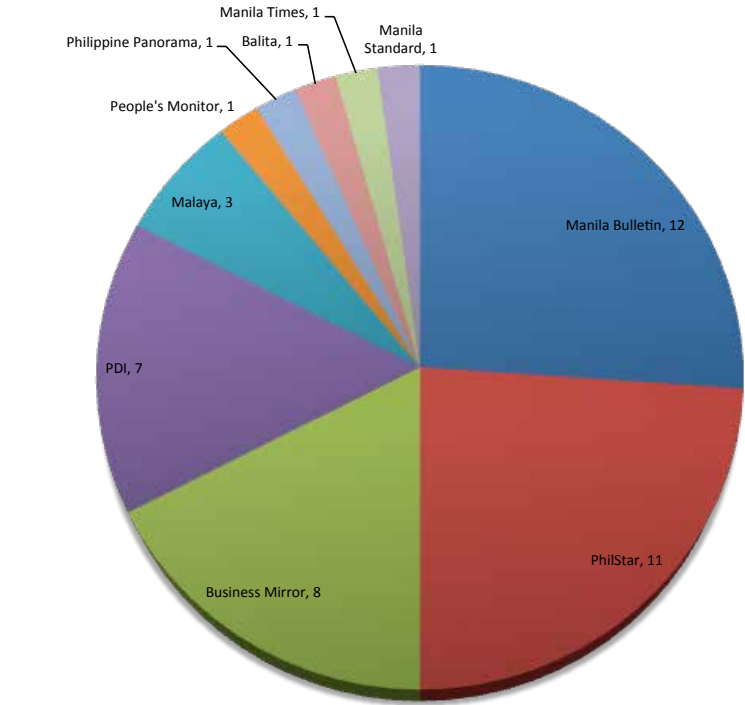


FIGURE 6. No. of Published SEI Articles in Major Newspapers (2014)

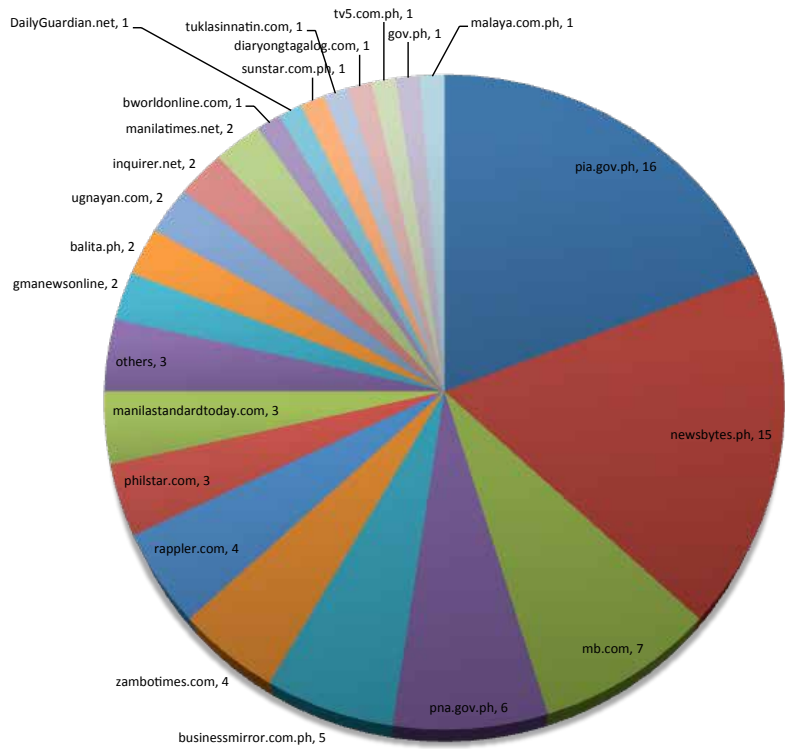


FIGURE 7. No. of Published SEI Articles in Major Websites (2014)



DOST Scholars gather for a night of celebration and honoring during the 2014 Scholars' Night.

Gender and Development

DOST-SEI IMPLEMENTS GENDER AND DEVELOPMENT PROGRAM.

In response to Memorandum Circular 2011-01 on the creation, strengthening and institutionalization of the Gender and Development (GAD) Focal Point System, and to PCW-NEDA-DBM Joint Circular 2012-01 on the preparation of GAD Plan to implement Magna Carta of Women, DOST-SEI conducted various activities that aim to create gender awareness and identify gender issues and perspectives.

The SEI GAD Program consists of a series of activities which are organization-focused and client-focused. Organization-focused activities seek to implement gender-responsive policies, programs, and projects that address gender issues of employees, particularly those that affect women's performance. Client-focused activities, on the other hand, seek to address the gender issues of DOST-SEI's clients. GAD activities may also include the review and integration of GAD in policies, database systems, monitoring and evaluation, or integration of GAD in training modules of government employees.

In 2014, the following activities were successfully implemented:

DOST-wide Women's Month Celebration

With the theme "Juana, ang Tatag mo ay Tatag Natin sa Pagbangon at Pagsulong!", SEI converged with other DOST attached agencies in celebration of Women's Month which featured different activities such as: Juana Talk Forum, Juana Walk for a Cause, Juana Dance (Zumba/Morning Exercise), Exhibits and Trade Fair, and Make-over session by Ricky Reyes. All SEI employees participated in these activities wearing their GAD shirts.



SEI employees participate in the Women's Month Celebration.

Philippine Commission on Women's "Human Women's Symbol Formation"

On March 8, 2014, SEI supported PCW's activity and joined other DOST agencies, government agencies, non-government organizations, state colleges and universities and other civil society groups to celebrate the International Women's Day at Quirino Grandstand in Manila with the theme "Sulong Juana! Human Woman Symbol Formation." This was a symbolic kick-off activity to celebrate women's resilience, strength and various roles in nation-building and untiring volunteerism in times of disasters, conflicts, and other emergency situations. Twelve (12) employees represented SEI in the event that set the largest human gender symbol in the Guinness World Records.

Gender Analysis and Gender Mainstreaming Seminar-Workshop for DOST-SEI

On October 8-9, 2014, the GAD Focal Point System of DOST-SEI conducted a training which aims to increase awareness and understanding of Philippine GAD Program and SEI's role in GAD, and broaden understanding of the key concepts and principles of GAD for the agency's effective GAD mainstreaming. The activity was held at Fiona's Farm in Magalang, Pampanga which was attended by 14 employees from various divisions of the Institute. Topics included gender mandates, gender analysis and mainstreaming concepts, and workshop on using a tool on Harmonized Gender and Development Guidelines (HGDG) for attributing programs/projects. Ms. Marita C. Pimentel, PCW-GAD Resource Pool member, was the Resource Person during the activity.



(Above) Ms. Marita C. Pimentel, PCW-GAD Resource Pool member, discusses the key concepts and principles of GAD to the SEI participants.

(Left) SEI participants on their group picture during the conduct of Gender Analysis & Gender Mainstreaming Workshop.

Gender and Development

DOST-wide Sportsfest

In order to promote healthy lifestyle among employees, SEI, through its GAD Program, joined the DOST-wide sportsfest activity in which women were encouraged to join sports such as volleyball and bowling. With low representation of its women in sports, SEI plans to continue to inspire and encourage women to join sports activities and reap the benefits of an active lifestyle.

Collection of Sex-Disaggregated Data

Expected to be of great use in identifying GAD issues, all DOST-SEI divisions which implement various programs/projects were requested to include sex-disaggregated data in their accomplishment reports. It was planned to be included in a database system to serve as basis in performance-based gender responsive planning.

SEIEA Lenten Outreach Program

In observance of the Lenten season, the SEI Employees' Association (SEIEA) conducted an outreach program at the GRACES Center in Misamis Street, Bago Bantay, Quezon City on April 15, 2014. GRACES is a government institution that provides services for the neglected, abandoned and homeless Filipino senior citizen.

To further extend help to around 50 older persons, SEIEA was able to raise an amount of P8,000.00 for the Lenten Outreach Program. The amount raised was used to purchase goods/ supplies donated to GRACES Center for the abandoned elderly.

Various Seminars/Trainings/Forums on GAD

SEI has been actively participating in forums/trainings/seminars concerning GAD. On August 19, 2014, SEI GAD Focal Point System participated in the "Roundtable Discussions on Health Beyond Health Care: Changing Mindset for the Control of Non-Communicable Diseases" organized by the National Academy of Science and Technology (NAST) held at Hyatt Hotel.

Representatives from the Institute also participated in a forum entitled "It's All About GAD and VAW" held on December 12, 2014 at Hyatt Hotel to promote public awareness on the problem of violence and eliminate all forms of violence against women and children. Part of the activity was the screening of the movie "BOSES" produced by ERASTO Films. The film was endorsed by the Philippine Commission on Women (PCW) for the protection and promotion of children's rights.

In response to Memorandum Circular No. 2014-04 or the Preparation and Online Submission of FY 2016 Gender and Development (GAD) Plans and Budgets, SEI-GFPS members attended orientation on the use of Gender Mainstreaming Monitoring System (GMMS) held on December 03, 2014 at the DOST Executive Lounge. The GMMS is a system developed by PCW for managing GAD profiles, GAD plan and accomplishment report of different agencies.

International Awards & Recognition

NOMINATION FOR TECHNOLOGY PACKAGE FOR STUDENT LEARNING EMPOWERMENT PROJECT.

Last February 2014, the project was nominated to the award giving body of the Information Society Innovation Fund (ISIF Asia), a program that aims to stimulate creative solutions to ICT development needs in the Asia Pacific region.

The Student Learning Empowerment Project nominated initially involved the development and dissemination of Grade 1 mathematics courseware. With the program's success, courseware for Grades 2 to 6 eventually followed to complete the set of technology package.

The project contributes to the improved delivery of educational content especially in the primary education, and consequently, to the improvement of the quality of Philippine Education.

It was nominated for utilizing efficient and affordable innovations in ICT, allowing students to adapt to new ways of learning in the information age.

The project also used innovative and sustainable technology and other resources to uplift the quality of education in the Philippines. It employed local talents for the benefit of the marginalized sector and made narrower the technological divide among students.

It was among the 93 nominations received by ISIF Asia in 2014 from 16 economies in the Asia Pacific region.



International Grants Received

DOST-SEI STRENGTHENS EDUCATIONAL TIES ABROAD.

Traveling, it is said, presents one of the greatest educational experiences for any individual, as it opens up the mind to the world's cultural and intellectual diversities. With the purpose of maximizing educational opportunities that lie abroad, DOST-SEI participated in 2014 in two programs designed to broaden the horizons for the youth and educators alike.

Japan-East Asia Network of Exchange Students and Youths.

DOST-SEI sent 79 undergraduate and graduate scholars from various S&T fields in the field of Agriculture participated in the 11th Batch of the JENESYS 2.0 program, which offers youth exchanges between Japan and ASEAN member-states. This program is aimed at revitalizing the Japanese economy, increasing tourism, and promoting global understanding of Japanese values.

The nine-day program includes visits to Japanese corporations; visits to provincial areas of Japan to enhance understanding of Japan's strengths, local cultures, attractions, and values; and engagements in first hand experiences on "Japan-Brand" by visiting historical architectures, World Heritage sites, and exhibitions promoting high-tech products in Japan.

The program included pre-departure orientation on May 8 and 16, 2014. Afterwards the Philippine delegation joined the other groups from Malaysia, India and Laos. The local team was supervised by Ms. Ma. Daisy A. Demoni, Ms. Charilyn Joy M. Layus and Ms. April s. Dumayag of the S&T Scholarship Division, SEI.



The Philippine delegation in Tokyo, Japan.

Australian Awards Fellowship.

The Australian Awards Fellowship (AAF) program is a customized training for Philippine Science High School Campus Directors and DOST-SEI staff addressing issues on managing current educational reforms in the Philippines, and strengthening STEM education in response to the shift to the new K to 12 curriculum.

Held at the Queensland University of Technology (QUT) in Brisbane, Australia, the program was divided into four (4) modules. The first module was on Executive Leadership Program that was held from April 14-18, 2015. It cultivated cohesive leadership teams and system thinking leaders in PSHS and SEI. It focused on authentic leadership, qualities of a good leader, leadership styles, and challenges of a leader. Towards the end of the module, the participants were introduced to the concept of mind-mapping as an approach to build a Re-Entry Action Plan or (REAP).

The next module dealt with Curriculum Development, Assessment and Evaluation. It was held from April 21-May 2, 2014. Lectures, workshops and activities were tucked in this module. Among the topics discussed were: Comparison of Queensland and Philippine curriculum, developing generic skills and competencies, assessment and backward mapping, STEM-ICT interventions, inclusive education, using data to improve school results, among others. The topics served as springboard for drafting the curriculum framework of PSHS and inputs to the REAP as well.

Module 3 dealt with international benchmarking on curriculum development. Traveling to Adelaide and Melbourne, the participants visited secondary schools, observed classroom practices, learned about the curriculum, and also visited a Science Museum.

The last Module was Re-entry action Planning (REAP) and the preparation of Output. Two REAPs were prepared by SEI and presented to the panel composed of members from the QUT Faculty.



DR. Stephen Brown (seated, center) and Ms. Jeanette Clonan (standing, left) with DOST-SEI participants of the AAF.

S&T Capacity Building Activities

LIST OF EMPLOYEES WHO ATTENDED CONVENTIONS/SEMINARS/TRAININGS FOR THE YEAR 2014

TITLE OF TRAINING/ SEMINARS/ WORKSHOPS		NAME	VENUE	DATE
1	GACPA: Sustaining Public Trust through Accountability, Credibility and Transparency	Sheslee F. Subida Racquel M. Tolentino	Java Hotel, Bacarra Road, Brgy. 55-B Salet, Laoag City, Ilocos Norte	January 16-18, 2014
2	Public Sector Accounting Standards (PPSAS) and Revised Chart of Accounts (RCA)	Sheslee F. Subida Philip J. Bue	Commonwealth Ave., Constitution Hills, Quezon City	February 17-21, 2014
3	Policy Form on Teaching & Learning with Tablet Computers	Josephine S. Feliciano	Richmonde Hotel, Pasig City	February 27, 2014
3	Leave Administration Course for Effectiveness	Jose Naxiel V. Resolis	25 Kaliraya St., Quezon City	March 6-7, 2014
4	Enhanced Training on Appointments Preparation	Joana Teresa Y. Medina	25 Kaliraya St., Quezon City	March 27-28, 2014
5	Making a Difference through Celebrations: A Knowledge Session on Event Management II	Mark Ivan C. Roblas Juan Antonio R. Tuazon	Sulyap Bed and Breakfast, San Pablo City, Laguna	April 21-22, 2014
6	1st International Conference on Sustainable Proactive Advocacies in Civil Engineering (SPACE 2014)	Emerito L. Guevarra	SMX-Aura, Fort Bonifacio Global City, Taguig	April 24-25, 2014
7	2014 HR Symposium	Alicia L. Asuncion Josefina A. Fernandez Luz S. Rimorin Joana Teresa Y. Medina	Cebu Waterfront Hotel, Cebu City	April 24-25, 2014
8	2nd National Career Advocacy Congress (NCAC)	Ma. Daisy A. Demoni	Midas Hotel, Pasay City	May 29-30, 2014
9	Advanced PHP & MySQL	Jhan-Jhan P. De Vera	UP-System Information Technology Foundation	June 14 to July 12, 2014
10	Training on Enhancing DOST Human Resource Capabilitis on Recruitment & Administrative Discipline	Luz S. Rimorin	NAST Conference Room	June 16-17, 2014
11	"Lessons from Yolanda: Disaster Recovery of Records and Library Science"	Ms. Anita E. Gorgonio	Punta Villa Resort, Santo Niño Sur, Arevalo, Iloilo City	June 18-20, 2014
12	Motivation Dynamics: From Gaming to Learning	Rodelio de Asis Josephine S. Feliciano	Oakwood, Ortigas, Pasig City	15-Jul-2014
13	Fraud Awareness, Detection and Prevention	Philip J. Bue	Hotel Kimberly, Malate, Manila	August 19-20, 2014
14	The New Leadership Style for the 21st Century	Imelda S. Sario	Berjaya Hotel, Makati City	November 26-28, 2014
15	International Conference on Teacher Education 2014	Ma. Cecilia M. Sacopla	Crowne Plaza Hotel, Ortigas, Quezon City	August 21-23, 2014
16	Disaster Risk Reduction Management	Anita E. Gorgonio Gilbert S. Ambac	Amihan Conference Room, 2/F PAGASA Central Office Building, Agham Road, Diliman, Quezon City	September 03-04, 2014
17	Outcome-Based Monitoring and Evaluation of S&T Programs/Projects	Jobelle P. Gayas	PCAARD, Los Baños, Laguna	September 15-19, 2014
18	Questionnaire Design	Josephine S. Feliciano	Statistical Research and Training Center (SRTC) Training room in Diliman, Quezon City	September 15-19, 2014
19	International Conference in SME Education	Amparo F. Olarte Josephine S. Feliciano	UPNISMED, Diliman, Quezon City	October 28-30, 2014
20	Basic SPSS Training for Researchers	1. Peter Gerry P. Gavina 2. Sheryl L. Pasatiempo 3. Jhan Jhan P. De Vera 4. Susana F. Esquivel 5. Celsa P. Tulalian	S1A 2/F Sunvar Plaza Bldg. 156 Amorsolo St. cor. Arnaiz Avenue, Legazpi Village, Makati City	October 30-31, 2014
21	4th Luzon Convention of Human Resource Management Practitioners (CHRMP)	1. Luz S. Rimorin 2. Joana Teresa Y. Medina	Subic Bay Exhibition and Convention Center, Subic Freeport Zone	November 18-20, 2014
22	Advanced Presentation Tools and Techniques	Jemmalyn C. Miniao	DOST Executive Lounge, DOST Compd., Bicutan, Taguig City	November 25-26, 2014

SCHOLARS UNDER SEI STAFF DEVELOPMENT PROGRAM

STATUS	NAME	COURSE	TYPE OF SCHOLARSHIP	START OF SCHOLARSHIP
New	Ruby D. Laña	Doctor of Philosophy in Education (Research and Evaluation)	Part-time	1st Semester AY 2014-2015
On-going	Ma. Cecilia M. Sacopla*	Master of Arts in Education major in Biology Education	Part-time	1st Semester AY 2013-2014
	Randolf S. Sasota	Doctor of Philosophy in Education (Research and Evaluation)	Part-time	1st Semester AY 2013-2014
	Ma. Teresa R. Castillo*	Master in Public Administration	Fulltime	1st Semester AY 2012-2013
On Extension	April S. Dumayag	Master of Arts in Education major in Chemistry Education	-	2nd Semester AY 2012-2013
	Joan G. Salise	Master of Arts in Education major in Chemistry Education	-	1st Semester AY 2011-2012
Suspended	Mark Ivan C. Roblas	Master of Development Communication	Start suspension 1st semester AY 2013-2014	1st Semester AY 2012-2013

* Thesis Writing

APPOINTMENTS PREPARED/ISSUED

Original Appointment:

- Mr. Jhan Jhan P. De Vera

–

Science Research Specialist II

Promotion:

- Ms. Ruby D. Laña

–

Chief Science Research Specialist
- Mr. Juan Antonio R. Tuazon

–

Senior Research Specialist
- Mr. Peter Gerry P. Gavina

–

Senior Research Specialist
- Ms. Jobelle P. Gayas

–

Science Research Specialist II
- Ms. April S. Dumayag

–

Science Research Specialist II

RECIPIENTS OF LOYALTY AWARD
(Per CSC MC No. 06, s. 2002)

No.	Name	Period of Continuous Government Service	No. of Years in the Gov't Service with Corresponding Loyalty Award Received	No. of Loyalty Award Received
	OD			
1	Josette T. Biyo*	06-01-1995 to 05-31-2010 06-01-2010 to 05-31-2014	15	2
2	Maria Teresa B. De Guzman	01-01-1990 to 12-31-2014	25	Waiting for DOST Certification on Loyalty Award received
	FAD			
3	Aida T. Ayran	01-23-1974 to 01-22-2014	35	6
4	Racquel M. Tolentino	07-09-1984 to 07-08-2014	25	4
5	Josefina S. Sta. Maria	01-05-1981 to 01-04-2014	30	5
6	Luz S. Rimorin	04-02-1984 to 04-01-2014	25	4
7	Anita E. Gorgonio	01-02-1995 to 01-01-2014	15	2
8	Susan A. Dela Peña	02-01-1997 to 01-31-2014	15	2
9	Ma. Teresa R. Castillo	06-16-1983 to 06-15-2014	30	5
	STSD			
10	Alicia L. Asuncion	06-18-1975 to 06-17-2014	35	6
11	Ma. Daisy A. Demoni	09-26-1990 to 09-25-2014	20	3
12	Josefina A. Fernandez	04-20-1981 to 04-19-2014	30	5
13	Ma. Elena C. Agbuis	02-01-1997 to 01-31-2014	15	2

No.	Name	Period of Continuous Government Service	No. of Years in the Gov't Service with Corresponding Loyalty Award Received	No. of Loyalty Award Received
	STMERPD			
14	Ruby R. Cristobal	12-05-1977 to 12-04-2014	30	5
15	Ruby D. Laña	07-01-1982 to 07-01-2002 07-01-2002 to 07-01-2014	30	5
16	Rafael L. Olivar	01-02-2001 to 01-01-2014	10	2
17	Imelda S. Sario	10-05-1979 to 10-04-2000 10-05-2000 to 09-23-2014	30	6
18	Geraldine L. Subida	02-01-1997 to 01-31-2014	15	2
19	Vergel P. Rebuta	09-01-1995 to 08-31-2014	15	2
	SEID			
20	Amparo F. Olarte	04-16-1984 to 04-15-2014	25	4
21	Cynthia T. Gayya	09-04-1984 to 09-04-2004 09-05-2004 to 09-05-2014	25	4
22	Rodelio G. De Asis	08-01-1991 to 07-31-2014	20	3
23	Edelmira B. Bustamante	07-27-1979 to 07-26-2014	30	5
24	Josephine S. Feliciano	10-15-1997 to 10-14-2014	15	2
25	Ma. Lourdes V. Felicitas	01-02-1996 to 01-01-2014	15	2

* Transferred to SEI effective April 1, 2014
Received Loyalty Award from PSHS
Note: 1st Loyalty award received equivalent to 10 years of government service

Managing SEI Resources

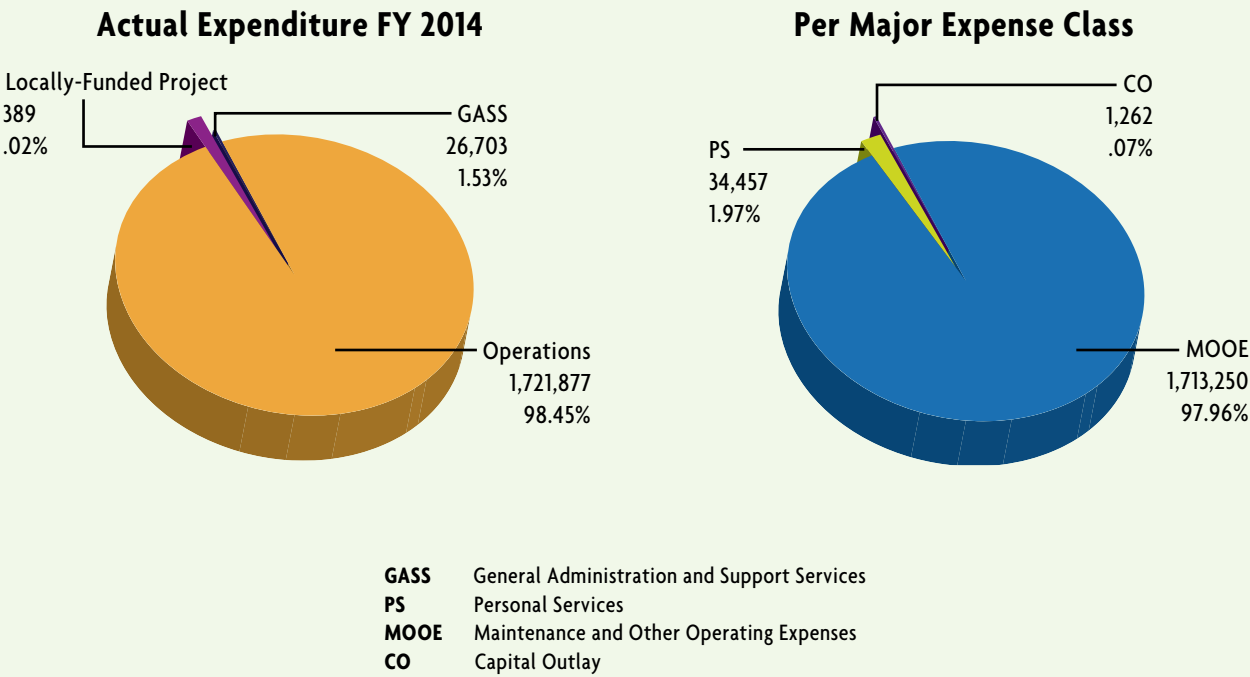
STATEMENT OF ALLOTMENT & OBLIGATIONS

(Amount In Thousand Pesos)

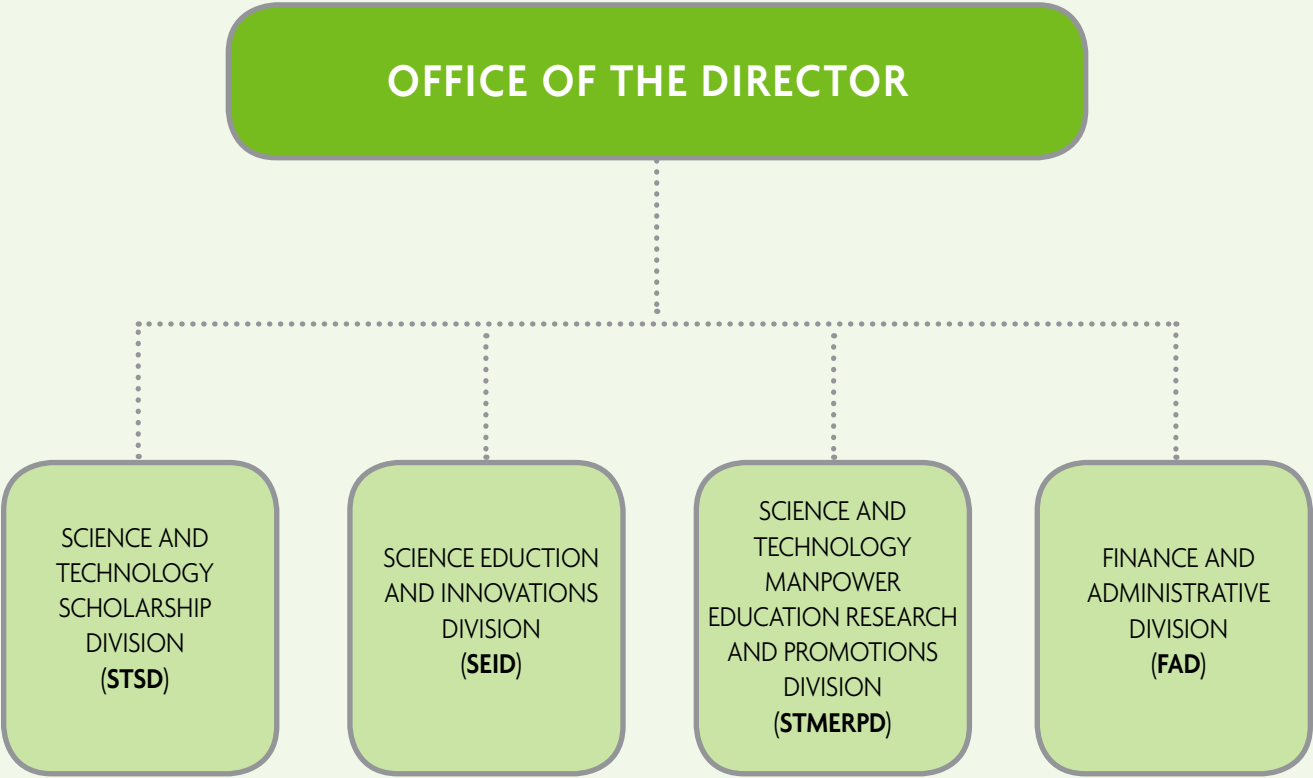
PAPS	PS		MOOE		CO		TOTAL	
	Allotment	Obligation	Allotment	Obligation	Allotment	Obligation	Allotment	Obligation
GENERAL ADMINISTRATION AND SUPPORT SERVICES	18,607	18,601	7,862	6,919	1,200	1,183	27,669	26,703
OPERATIONS								
Development, Utilization and Implementation of S&T Scholarships	4,877	4,806	1,675,010	1,674,949			1,679,887	1,679,755
Research, Promotion and Development of S&T Education and Training	11,105	11,050	34,242	31,072			45,347	42,122
Locally Funded Project Support to the Presidential Implementing PD 997			355	310	103	79	458	389
TOTAL BUDGET	34,589	34,457	1,717,469	1,713,250	1,303	1,262	1,753,361	1,748,969

BUDGET DISTRIBUTION

(Amount In Thousand Pesos)



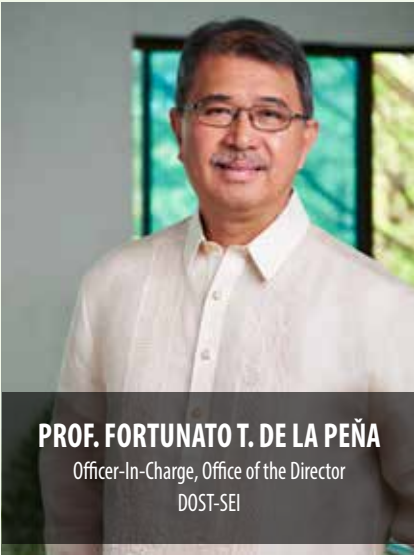
Organizational Chart



Key Officials



DR. JOSETTE T. BIYO
Director



PROF. FORTUNATO T. DE LA PEÑA
Officer-In-Charge, Office of the Director
DOST-SEI



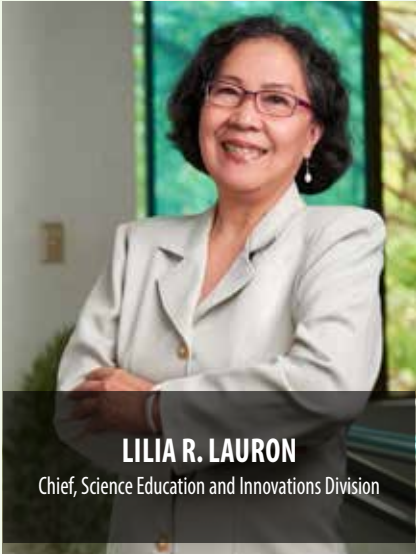
ALICIA L. ASUNCION
Chief, Science and Technology Scholarship Division



RUBY R. CRISTOBAL
Chief, Science and Technology
Manpower Education
Research and Promotions Division



ENGR. MARIA TERESA B. DE GUZMAN
Deputy Director



LILIA R. LAURON
Chief, Science Education and Innovations Division



AIDA T. AYRAN
Chief, Finance and Administrative Division

Officers and Staff



**OFFICE OF THE
DIRECTOR**



**SCIENCE EDUCATION
AND INNOVATIONS DIVISION**



SCIENCE AND TECHNOLOGY SCHOLARSHIP DIVISION

Officers and Staff



SCIENCE AND TECHNOLOGY MANPOWER
EDUCATION RESEARCH AND PROMOTIONS DIVISION



FINANCE AND ADMINISTRATIVE DIVISION

MANDATE PER EO 128

- Undertake science education and training;
- Administer scholarships, awards and grants;
- Undertake science and technology manpower development; and
- Formulate plans and establish programs and projects for the promotion and development of science and technology education and training in coordination with DepEd, CHED and other institutions of learning.

VISION

DOST-SEI shall develop the country's human resource capacity in science and technology required to produce demand-driven outputs that meet global standards.

MISSION

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



Science Education Institute
DEPARTMENT OF SCIENCE AND TECHNOLOGY

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DOST Compound
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Taguig City
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