

Sharpening Our Cutting-Edge

for a more inclusive future



Science Education Institute

DEPARTMENT OF SCIENCE AND TECHNOLOGY

ANNUAL REPORT 2016

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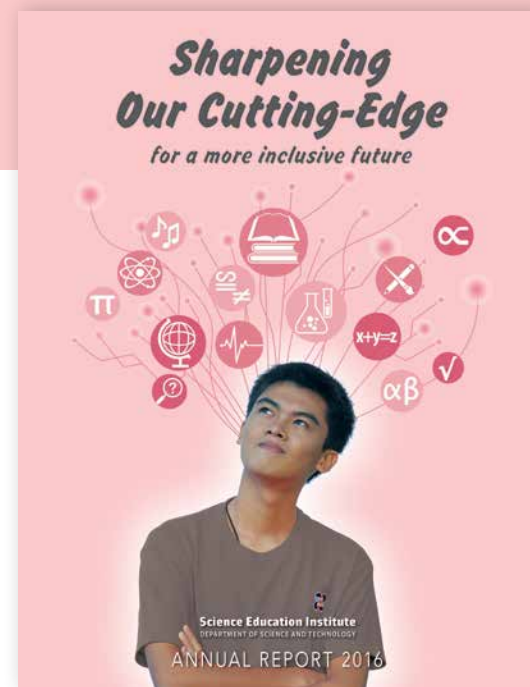
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ABOUT THE COVER

To cultivate a mind brimming with scientific and technological concepts that will help uplift the lives of our fellow citizens.

Such is the objective of the Institute for all its scholars in the performance of its mandate to administer science and technology education through scholarships and policies, develop our S&T manpower capabilities, and contribute to the technological advancement of our country in the world stage.

We aim to provide this to all deserving individuals with the thirst for knowledge – regardless of creed, culture, social standing – and bring about through inclusive upbringing a vibrant future for the Filipino.

introduction

In the pursuit of S&T education, one overarching mission has come to the fore of everyone's attention – to address the inequality between the haves and the have-nots, the urban privileged few and the rural majority, and the marginalization of certain groups whether by religious, ethnic, geographic or educational constraints.

This mission involves not just the provision of enrollment opportunities for everyone. Increasing the number of enrollees should go hand in hand with ensuring that sufficient learning outcomes are met, and that skills developed through education should substantively pave the way for economic growth.

With its focus on bringing the benefits of S&T education directly to the people, the government has already taken significant steps in this direction, by increasing the budget for education, subsidizing college education in state universities, and boosting the country's R&D capabilities for innovations, inventions and global competitiveness through House Bill 4581 or the "Science for Change Program."

The call for inclusive growth has become more insistent globally, as governments worldwide grapple with the need for a more socially-inclusive approach to generating economic wellbeing for their citizens. While there are divergent policies and institutional systems at play in each country's approach to inclusive growth, significant investment in education is universally regarded as essential for countries to flourish in the world economy.

In the comprehensive 2016 Global Education Monitoring (GEM) Report, it is categorically stated that education "is the most vital input for every dimension of sustainable development," directly impacting economic prosperity, livelihood opportunities, quality of life, societal order and structures, and the natural environment.

As the Philippine economy continues to be a top performer in the East Asia and Pacific region, and the government continues to increase its investments in all public spheres, the spillover effect is a sustained and inclusive pattern of growth that generates more jobs, contributes to higher household consumption and poverty reduction, and reinforces the confidence of the Filipino people.

For the Science Education Institute, it is the best time to further mobilize and sharpen our cutting edge—our talented pool of human resources—in developing a society that embraces human dignity, social inclusion, environmental preservation, and technological progress.



message from the

secretary

An able nation is one that has the capacity to keep pace with globalization, progressively spurring cooperation in key areas, and therefore addressing societal issues such as poverty, inequality, and unemployment.

Indeed complementing the ASEAN Community's objective to be a region that promotes equal access to opportunities for each and every level of society, the Philippines has been creating an even playing field through meticulously crafted programs and investment policies that pave the way for inclusive growth. Science, technology, and research are among the aspects now being focused on by the administration to contribute to the achievement of the ASEAN's vision of a sustainable, dynamic community.

The year 2016 marks the first year of the ASEAN Vision 2025 implementation, in which a forward-looking roadmap explores various areas of cooperation to stimulate an economically integrated and socially responsible region. The realization that a favorable economic integration is based on the member nations' ability to assimilate science and technology has thus elevated deliberate plans responding to the lack of S&T manpower resources in our country.

The Science Education Institute is among the mandated agencies that remain at the forefront of the Department of Science and Technology's campaign to further develop S&T human resources to advance research and technology development capabilities to acquire industrial competitiveness and consequently reduce unemployment incidences.

Over the years, SEI has been building capabilities in S&T and strategizing innovative platforms for Science, Technology, Engineering, and Mathematics education. With its relentless push partnered with an enabling environment, the percentage of scholars and scholar-graduates, collaborations with several universities and experts, recognitions given by highly regarded international organizations, and capacity development among educators all have increased substantially.

We give due credit to SEI, as its strong commitment is our nation's action plan in S&T education for the ASEAN Community's economic and socio-cultural vision. The DOST will continually support the development of science and technology education programs, produce the required number of personnel and substantially contribute to economic development.

I extend my appreciation to our partners, stakeholders, and policymakers for their tireless support.

SEC. FORTUNATO T. DELA PEÑA
Department of Science and Technology



message from the

director

I take great pride in the Institute's achievements during the year in review, as it continues to blaze a trail in the advancement of science, technology, research, and innovation in the country.

The government seeks to highlight science and technology as among the major catalysts for inclusive development, and thus included the promotion of these areas in its 10-point socio-economic agenda. It has demonstrated strong efforts to foster an environment for sustained progress in S&T education, further enabling DOST-SEI to produce highly capable human resources.

Since the first implementation of our intensified information campaign in 2014, we have been witnessing remarkable improvements in the number of S&T scholarship participants. In 2016 alone, the Institute has supported over 20,600 students in total—an upsurge of 9.87 percent from the 2015 number of scholars. The number of examinees also swelled to 7,517, or more than a hundred percent higher than the numbers in the previous year.

As our scholars continue to grow in number, eradicating poverty in the country becomes more reachable. We hope that our constant pursuit of this development strategy will pave the way to economic growth and global competitiveness.

It is worth mentioning as well that the Filipino youth keeps moving ahead in the fields of science and mathematics, as evidenced by the 831 medals brought home by the 2016 Class of Youth Excellence in Science. This is a 36 percent increase from the honors garnered in 2015, a progress that we attribute to more improved learning systems under the Science, Technology, Engineering, and Mathematics strand of the new K-12 curriculum.

As we continue our commitment to bolster human resource capacity in S&T, I would like to extend my sincerest gratitude to our various stakeholders in the public and private sectors for your unwavering support. We strongly believe that our S&T scholarship programs contribute to reducing poverty in the country.

DR. JOSETTE T. BIYO
Director, Science Education Institute

highlights

S&T SCHOLARSHIP PROGRAMS

The number of scholars supported by DOST-SEI in 2016 increased by 9.87% over those in 2015, totaling 20,618. The undergraduate scholarship programs supported a total of 17,491 scholars. Among them, the majority or 77% were continuing scholars, 12.5% were new scholars, while 10.38% were scholar graduates.

Similarly, qualifiers to the Junior Level Science Scholarship doubled in number in 2016, as a total of 2,196 third-year level college students qualified in the examination, a 113% increase over 2015 qualifiers.

The graduate scholarship programs likewise reflected an increase in number of scholars, with 2,407 taking up various masters degrees and 720 in doctoral degrees. These indicate an increase of 5.57% and 15.20% increase in both levels, respectively, compared to those in 2015.

EDUCATIONAL ENGAGEMENT PROGRAMS

DOST-SEI continued its support of JENESYS 2.0, the exchange program with Japan. In 2016, the emphasis was on Food Safety and Security, as the Philippine delegates visited various agricultural and consumers cooperatives, food manufacturers, and attended a university workshop.

Further foreign collaboration for scholarship was eyed as DOST-SEI discussed with Universiti Teknologi Petronas in Malaysia the possibility of sending Filipino scholars for admission under the Accelerated S&T Human Resource Development Program.

The DOST-SEI, in collaboration with the British Council, started offering in 2016 the DOST-Newton PhD Scholarship, a grant that intends to facilitate the capacity building of individuals, and the building of sustainable, long-lasting links between the UK and Philippines.

The Science and Technology Regional Alliance of Universities for Inclusive National Development (STRAND) was set up with the goal of expanding the set of universities in the country where DOST-SEI graduate scholars can enroll. Eleven (11) higher education institutions were visited and evaluated on their capacity to deliver Graduate Scholarship Programs in STEM courses.

Ensuring the gainful employment of DOST-SEI scholar-graduates under ASTHRDP and ERDT, the Career Incentive Program deployed 22 beneficiaries to various DOST

agencies and regional offices, encouraging them to pursue their S&T careers in the country and allowing them to serve as models for the next generation of students.

The annual recognition program called “In Touch with Excellence” recognized 540 undergraduate and 220 graduate scholars who finished their degrees with honors and/or earlier than the prescribed period. The ceremony was held at the Philippine International Convention Center, Manila on July 29, 2016.

Seeking to give its scholars a more global perspective in establishing and presenting their research outputs, the DOST-SEI and the ASTHRDP-NSC held its 1st International Scholars’ Conference on April 7-8, 2016 at the Philippine International Convention Center. It was attended by 430 scholars, faculty members, guests and foreign participants from Taiwan, Korea, Malaysia and Thailand.

DOST-SEI SCHOLARSHIP PROMOTION AND EXPANSION

The strategic communications and marketing campaign called #Push4Science expanded scholarship awareness to more municipalities, engaging 139 municipalities and 850 students and teachers in areas that had previously no examinees in the 2015 Junior Level Science Scholarship Program. Scholarship Campaign Kits were also distributed to other municipalities and in all DOST attached agencies to promote the scholarship programs.

The Science Explorer, the country’s first and only mobile learning science facility, broke new grounds by going to areas it had not covered in the past year. From Philippine General Hospital to Clark, Pampanga, then on to Visayas where it served students in typhoon-hit municipalities in Leyte, Samar, and Oriental Mindoro, it also covered the provinces of Isabela, Ilocos Sur, and La Union.

The Climate Science Youth Camp, held on April 7-14, 2016, tackled the theme “The Ocean and Climate Change: A Climate for Change”. Participants were composed of 40 high school students in the 8th and 9th Grades and 20 teachers from Regions IV-B, V, VI and VIII.

LOCAL AND INTERNATIONAL COMPETITIONS

The 17th World Space Week Celebration, held in October 2016, drew more participating schools. Studies competed in several local contests including the Water Rocket Launching, Poster Making, and Can Satellite competition.

The Philippines hosted for the first time the 23rd Asia Pacific Regional Space Agency Forum on November 15-18, 2016. This international event drew the participation of 78 students, 32 coaches and 16 observers from 13 other countries that included Bangladesh, Cambodia, China, Indonesia, India, Japan, Malaysia, Nepal, Singapore, Sri Lanka, Pakistan, Thailand, and Vietnam.

In the 57th International Mathematical Olympiad held in Hong Kong on July 6 – 16, 2016, the Philippine team brought home two Gold medals, a first in the history of the country’s participation to the largest, most prestigious and most difficult mathematics competition among secondary students in the world.

Filipino students likewise shone in the Australian Mathematics Olympiad held on July 28, 2016, as it drew 4,354 local participants, 28% more than those in 2015.

DOST-SEI organized the Indie-Siyensya science film-making competition, with the objective of encouraging the youth to communicate scientific concepts through film and learn the processes involved in documenting researches and other S&T topics. It was launched on October 21, 2015, and by 2016 it had generated 16 official entrees, which were screened and evaluated by the Board of Judges composed of science advocates and film experts.

The Philippines, through DOST-SEI and UP Los Baños, hosted the 5th ASEAN Plus Three Junior Science Odyssey (JPTJSO), an annual educational event designed to develop the gifted and talented young students to excel in the field of science and technology. It was attended by 78 gifted students and 26 coaches from Brunei Darussalam, Cambodia, China, Indonesia, Korea, Laos, Malaysia, Myanmar, Philippines, Sweden, Chinese Taipei, Thailand, and Vietnam.

TEACHER TRAINING PROGRAMS

The Science Teacher Academy for the Regions (STAR) set off in 2016 with its objective of implementing innovative teacher trainings in various places of the country. Two training topics were conducted with the participation of DOST-SEI’s institutional linkages situated in six regions of the country, benefiting 545 science and mathematics education teachers in 49 provinces.

Under Project HOTS inquiry-based teaching, 113 Grade 4 teachers from 29 schools in Taguig City and Pateros participated in a series of three-day, 21-hour seminar-

workshop conducted in April and May 2016. The program is designed to provide professional development opportunity for elementary science teachers on the features of inquiry-based teaching, development of the research lesson, presentation and peer-review, and formulation of long term goals and sub-goals.

Eleven (11) science and mathematics trainers of STAR partner universities from Regions 1, 3, 5, NCR, 6 and 10, together with five (5) SEI officials and staff visited schools in Taiwan, a country noted for its track record of cutting-edge technology advancements and consistent placement at the top in TIMSS. The goal was to upgrade the capacity of faculty members of partner universities and SEI staff through exposure to global best practices in STEM education. The 5-day visit took place on August 15-19, 2016.

INSTITUTIONAL EXPANSION PROGRAMS

DOST-SEI added ten (10) universities on top of six (6) other partners, establishing a STAR network university in almost every region of the country for more trainings and more teachers to be capacitated.

Under the program called Access to Resources and Innovations in Science Education (ARISE), a total of 1,889 students, teachers, education superintendents and supervisors, stakeholders, scholars, government organizations and NGOs visited and benchmarked the 21st Century Model Classroom; attended seminars on 21st century learning environment and education technology; and participated in training on development of inquiry-based science lessons.

The Institute renewed its membership in the International Association for the Evaluation of Educational Achievement (IEA), an independent, international cooperative of national research institutions and governmental research agencies conducting large-scale comparative studies of educational achievement and other aspects of education.

The Interactive Mathematics Courseware for Grades 1-6 and Interactive Science and Mathematics Courseware for Grades 7 and 8 courseware, developed as tools to help improve the students’ achievement in science and mathematics, continued to be replicated in 2016 for dissemination to public elementary and secondary schools. Twenty modules for science and mathematics in Grades 7 and 8 were uploaded to Google Play store to be downloaded as mobile app running on Android-powered smart phones, tablets and other devices for free to facilitate greater educational engagement.



DEVELOPING HUMAN RESOURCES
IN SCIENCE AND TECHNOLOGY

1

SCIENCE AND
TECHNOLOGY
UNDERGRADUATE
SCHOLARSHIP
PROGRAMS

WITH THE CUMULATIVE ROLE OF SCIENCE AND TECHNOLOGY IN OUR LIVES, DEVELOPING NATIONS ARE WAKING UP TO THE NEED FOR IMPROVED ECONOMIC EFFICIENCY, COUPLED WITH A TECHNOLOGY-CENTERED DEVELOPMENT AGENDA TO ENHANCE PRODUCTIVITY, RATHER THAN JUST THE SIMPLISTIC MINDSET OF INCREASING LABOR AND CAPITAL TO ACHIEVE ECONOMIC GROWTH.

Global developments inevitably push all nations to this policy shift. As liberalized world trade places greater emphasis on innovation, knowledge-driven economies require greater competence on emerging technologies. The onset of the “fourth industrial revolution” drives more invasive means by which technology becomes embedded in everyday lives, necessitating more specialized training to help the country assess and apply the potentials of new processes and technologies.

Our educational institutions are taking all these developments into account to produce quality human resources that can keep up with the acceleration of innovation and the velocity of disruption, and foster the government’s thrust for inclusive growth.

TOTAL NUMBER OF SCHOLARS
CONTINUE TO RISE

In 2016, DOST-SEI supported a total of 17,491 scholars in baccalaureate degree programs; 2,407 scholars in master’s degree programs; and 720 scholars in the doctoral degree programs. This reflects a 9.87% increase from the number of scholars in 2015 albeit their percentage distribution in different degree levels remain the same as the 2015 percentages: 3% for PhD, 12% for MS and 85% for BS.

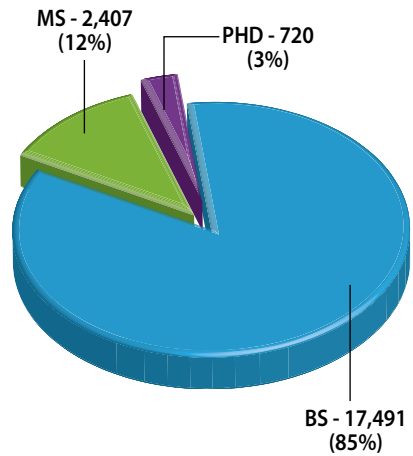


FIGURE 1:
Percentage of DOST-SEI Scholars
Supported by Degree Program

Table 1 shows the regional distribution of DOST-SEI undergraduate scholars. Among the 17,491 undergraduate level scholars supported, 2,196 or 12.55% are new scholars; 13,480 or 77.07% are continuing scholars and 1,815 or 10.38% are scholar-graduates.

Based on home region, Region IV-A had the highest number of scholars with 2,565 or 14.67% followed by NCR with 2,072 or 11.85% and Region VII with 1,877 or 10.73%.

2016 JUNIOR LEVEL SCIENCE SCHOLARSHIP QUALIFIERS DOUBLE IN NUMBER

A total of 2,196 third year-level college students qualified for the 2016 Junior Level Science Scholarship (JLSS) Examination, a 113% increase over the 1,030 number of 2015 qualifiers. The names of the qualifiers were announced on December 25, 2016 in the DOST-SEI website and leading national newspapers.

The JLSS Examination was held on October 16 and November 13, 2016 (in areas affected by typhoon Karen) in over 84 test centers around the country. A total of 7,517 third year college students enrolled in S&T courses took the examination, twice the number in 2015 which had 3,736 examinees. The increase could be attributed to the sustained efforts in promoting the scholarship programs in the higher educational institutions offering S&T courses nationwide.

The JLSS program offers scholarship to deserving third year-level students enrolled in S&T courses. JLSS scholars are categorized under three scholarship programs: RA 10612 or the Fast-track Scholarship Act of 2013 for those intending to teach science and mathematics in secondary schools; RA 7687 awarded to poor, talented and deserving students who want to pursue careers in S&T; and the MERIT scholarship, granted to students with high aptitude in science and mathematics and who are willing to pursue careers in the fields of S&T.

Table 1: Regional Distribution of DOST-SEI Undergraduate Scholars				
REGION	STATUS			TOTAL
	NEW	CONTINUING	GRADUATING	
I	133	655	67	855
II	59	472	50	581
III	245	1186	164	1595
V	172	1019	193	1384
VI	214	1121	156	1491
VII	193	1445	239	1877
VIII	135	763	63	961
IX	51	325	40	416
X	174	646	75	895
XI	73	495	68	636
XII	72	330	49	451
IV-A	297	2022	246	2565
IV-B	32	402	45	479
CAR	48	429	53	530
CARAGA	69	406	47	522
ARMM	15	154	12	181
NCR	214	1610	248	2072
GRAND TOTAL	2,196	13,480	1,815	17,491



Dr. Josette T. Biyo, Director of SEI, commends the valuable efforts of the DOST Regional Offices in promoting the S&T Scholarship programs.

A total of 7,517 aspiring third year-level students took the 2016 Junior Level Science Scholarship (JLSS) examination last October 16 and November 13 nationwide in hope to be a DOST-SEI Scholar.

The scholarship benefits took effect in the First Semester of AY 2016-2017. Qualifiers will enjoy the scholarship effective the First Semester of AY 2016-2017 in retroactive of their third year college. They are entitled to tuition and other school fees, monthly living allowance, book allowance, among others, for the last 2-3 years of their undergraduate studies.

In return, they shall render service in their field of specialization for RA 7687 and MERIT scholars; and to teach STEM track in public or private high school for RA 10612 scholars. They are required to serve on a full-time basis for a minimum period equivalent to the length of time they enjoyed their scholarships.

The implementation of the JLSS (MERIT and RA 7687) supports the goal of the DOST-SEI to substantially increase the number of scientists and engineers needed to boost economic productivity and knowledge creation in the country. Meanwhile, the RA 10612 supports the execution of Section 8 of the K to 12 law by providing a pool of scholar-graduates which can competently teach science, technology, engineering, and mathematics (STEM) in the basic education.

RECORD-BREAKING NUMBER OF EXAMINEES AND QUALIFIERS COMMENDED

During the orientation meeting with the DOST Regional Scholarship Coordinators and Project Staff, including National Capital Region's Core Group Project Directors and University Coordinators for the administration of the JLSS scholarship programs, Dr. Josette T. Biyo commended the valuable efforts delivered by the DOST Regional Offices in promoting the S&T Scholarship Programs especially in the countryside. The meeting was held on March 14-15, 2016 at the Lake Hotel Tagaytay.

Dr. Josette T. Biyo commended the valuable efforts delivered by the DOST Regional Offices in promoting the S&T Scholarship Programs especially in the countryside.

The DOST-SEI staff together with the DOST Regional S&T Scholarship Coordinators, Project Staff and University Coordinators.

UNDERGRADUATE SCHOLARSHIP EXAMS TESTED FOR K-12 GRADUATES

DOST-SEI conducted the Workshop Preparation on Test Development for the DOST-SEI Undergraduate Scholarship Examination, geared toward making the S&T scholarship programs (RA7687 and Merit) responsive to the first batch of senior high school graduates of the K-12 program in Year 2018.

The workshop was held on May 26-28, 2016 at the Summit Ridge Hotel Tagaytay. S&T experts from various leading institutions served as domain experts and test item writers.

SELECTION INSTRUMENTS DEVELOPED FOR JLSS QUALIFIERS

In preparation for the administration of the 2016 Junior Level Science Scholarship (JLSS) Examination, DOST-SEI conducted a Test Development Workshop on June 8-10, 2016 at Seda Nuvali, Sta. Rosa, Laguna, aimed at developing test instrument for use in the selection of the qualifiers for the 2016 Junior Level Science Scholarship (JLSS).

S&T experts reviewed the test items in different domains based on the results of item and option analysis; revised the existing items with low facility and discrimination indices; formulated new test items that could replace the ones that were discarded; and organized the test items into parallel forms with corresponding answer keys.



Dr. Marilyn Balagtas, of the Philippines Normal University, gives a talk on “Guidelines on Effective Item Writing and Test Table of Specifications” during the Test Development Workshop.

DOST-SEI Director Josette T. Biyo welcomes test consultants and domain expert/test item writers to the 2016 JLSS Examination during the Test Development Workshop.



Prof. Fortunato T. de la Peña, DOST-SEI Consultant, explains the discrimination index of one of the test domains being reviewed.

S&T GRADUATE SCHOLARSHIP PROGRAMS

NUMBER OF NEW GRADUATE SCHOLARS INCREASED

In 2016, a total of 3,127 scholars were supported in the graduate level with 2,407 in various masters degrees and 720 in doctoral degrees. These indicated an increase of 5.57% and 15.20% in the masters and the doctoral levels, respectively, compared to those in 2015. (See Table 2)

By scholarship program, a total of 1,407 MS and 343 PhD scholars have been supported under the Accelerated Science and Technology Human Resource Development Program (ASTHRDP), which is implemented through the National Science Consortium (NSC) of 11 top universities. There were also 189 MS and 188 PhD scholars under the Capacity Building Program in Science and Mathematics Education, which is envisioned to produce quality S&T faculty members; and 811 MS and 189 PhD scholars under the Engineering and Research and Development for Technology (ERDT) scholarships for master’s and doctorate degrees in various engineering fields, delivered through the ERDT consortium of eight (8) member universities.

The Institute conducted a series of orientation sessions on scholarship policies and signing of the Scholarship Agreement for the new scholars. The orientation provided information to the scholars on the provisions stipulated in the Scholarship Agreement and other scholarship policies and the signing of the Agreement, legal basis for the release of financial assistance to them.

Faculty advisers give their thumbs-up after a well-presented output.

Table 2: Distribution of Graduate Scholarship S&T Scholars by Graduate Scholarship Program

PROGRAM	LEVEL	TOTAL
Science Education	MS	189
	PHD	188
ASTHRDP	MS	1,407
	PHD	343
ERDT	MS	811
	PHD	189
Total	MS	2,407
	PHD	720
Grand Total		3,127

UNDERGRADUATE SCHOLARS’ INFORMATION SYSTEM BEING DEVELOPED

The S&T Scholarship Division designed and developed an undergraduate scholarship information system that will enable easy access, regular update of information, quick monitoring, and timely generation of reports by the scholarship staff. The system will provide for the generation of reports using the modules developed that will run through the timely encoding of the personal and academic records of scholars.





Faculty advisers and participants pose with ERDT Program Leader Dr. Aura C. Matias during the ERDT Research Management Training.



(Top-Left Photo) Delegates write their ideas during the workshop activity; (Top-Right Photo) Hands-on activity in one of Japan's food factories; and (Photo above) Delegates pose with the Japanese factory workers.

ERDT HOLDS RESEARCH MANAGEMENT TRAINING FOR FACULTY ADVISERS

Engineering faculty members handling ERDT scholars from the eight consortium universities conducted the ERDT Research Management Training on March 12-13, 2016 at the Summit Ridge Hotel, Tagaytay City, Cavite.

Dr. Aura C. Matias, ERDT Program Leader, stressed the important role of thesis advisers in helping graduate students finish their degrees, and said that the training was designed to help improve the participants' skills in engineering research management and graduate students mentoring.

Dr. Susan B. Pancho-Festin of the Department of Computer Science of UP Diliman (UPD) discussed the topic entitled "Starting Your Research Career". She cited organizations such as USAID, EU, AUN/SEED-Net, among others which may provide grants to researchers for research projects.

Another faculty member of the same department, Dr. Cedric Angelo M. Festin, presented his topic entitled "Collaboration in Research." Dr. Luis G. Sison of the Electrical and Electronics Engineering Institute of UPD talked about "Opportunities and Challenges in Research Management" in which he shared topics on technology transfer and technopreneurship.

Other speakers were Dr. Allan N. Soriano of the School of Chemical Engineering and Chemistry of Mapua Institute of Technology (MIT); Engr. Ramon G. Garcia, professor from the School of Electrical, Electronics and Computer Engineering of MIT; and Dr. Andres Winston C. Oreta, a professor from the Department of Civil Engineering of De La Salle University (DLSU) who shared their expertise on the topic "Mentoring".

INTERNATIONAL SCHOLARSHIPS AND COLLABORATIONS

FILIPINO STUDENTS CONTINUE ENGAGEMENT IN JENESYS 2.0

On November 1-8, 2016, an SEI staff together with 27 Philippine delegates went to Japan for the Japan-East Asia Network of Exchange for Students and Youths (JENESYS 2.0) Program, a collaborative program to stimulate mutual trust and cooperation among the people of Japan and participating countries, and promote global understanding of Japan's society, history, diverse culture, politics and foreign policy.

To learn more about food safety and security, the group visited Palsystem Consumers Cooperative Union (Palsystem Union), JA Midorino (Japan Agricultural Cooperative), Inchinokura Sake Brewery, Sendai Tourism Office, and Miyagi University, located in Tohoku and Tokyo.

During the workshop session, keynote lecturer Prof. Sasaki of Meiji University discussed how the Japanese people immediately respond to incidents like food poisoning and outbreaks which led them to the development of food safety. One instance was the cholera outbreak during the Edo period that eventually led them to the development of an exceptional water treatment system which makes even tap water potable.

At the end of the program, the group pledged to share their acquired knowledge to the Filipino people through: (a) the conduct of forums/symposium/seminars in universities, agricultural sectors, government units and stakeholders on cooperative farming and traceability; (b) sharing in social networking sites (SNS) with family, colleagues and academic organizations.

The 2016 JENESYS 2.0 Philippine delegates together with their Japanese Speakers after one of their workshop sessions conducted in Miyagi University.

ASTHRDP-FOREIGN SCHOLARSHIP EYES COLLABORATION WITH UNIVERSITI TEKNOLOGI PETRONAS, MALAYSIA

Last September 30, 2016, Dr. Josette T. Biyo, DOST-SEI Director and staff from the S&T Scholarship Division met with the officials of Universiti Teknologi Petronas (UTP) in Malaysia to discuss the possibility of sending eight (8) scholars from Palawan State University (PSU) and Batangas State University (BatSU) for admission to UTP under the Accelerated S&T Human Resource Development Program.

The project stemmed from a roundtable discussion in April 2015 wherein DOST-SEI identified BS Petroleum Engineering as one of the priority fields of study.

The meeting involved discussion on the program of study wherein six (6) students would take the MSc Petroleum Engineering, while two (2) students would take PhD Mechanical Engineering with specialization in Energy Systems. Also discussed were exemption from English language proficiency and other test certificates; board and lodging; online application; processing of student visa; drafting of memorandum of agreement; and future collaborations for research and other activities.

Present during the discussions were Prof. Dr. Mohd Shahir Liew, Dean, Faculty of Geoscience and Petroleum Engineering; Assoc. Prof. Dr. Ahmad Kamil B Mahmood, Dean, Faculty of Science and Information Technology; Assoc. Prof. Dr. Mohd Fadzil B Hasaan, Dean, Centre for Graduates Studies; and other administrative and academic officials of UTP.

Dr. Josette Biyo, DOST-SEI Director, visits laboratory facilities such as the Drilling Fluid and Generation facility and interacts with some student and professor.



Officials from UTP and DOST-SEI pose for posterity to mark the start of collaborations between DOST-SEI and UTP for academic network and research collaboration.

DOST-SEI NEWTON SCHOLARSHIP PROGRAM DEPLOYS AWARDEES

The DOST-SEI, in collaboration with the British Council, started offering in 2016 the DOST-Newton PhD Scholarship. This foreign grant intends to facilitate capacity building of individuals, and building sustainable, long-lasting links between the UK and Philippines on human resource development in science and technology. It is jointly funded by the DOST and the British Council.

The awardees deployed in 2016 to pursue PhD were Angelo Aquino to the University of Sheffield; Charlie Lavilla, Jr. to the Nottingham Trent University; Gene Fe Palencia to the Coventry University; and Sherdon Niño to the Birmingham City University.

The British Council is working with local funding partners in the Philippines, such as the DOST-SEI, to deliver programmes which focus on the local development needs such as health and life sciences; improving environmental resilience; improving energy security; future cities; Agritech; and digital, innovation and creativity. The Phil-UK collaboration is in pursuance of the goal of developing S&T human resources who will address the pressing needs of our country with an international level approach.



Dr. Josette T. Biyo welcomes and congratulates the qualifiers of DOST-Newton PhD Scholarship program.



Mr. Nicholas Tomas and Ms. Andrea Teran of the British Council discuss with DOST-Newton PhD scholars and their parents the opportunities in UK higher education institutions.



The DOST-Newton PhD Scholars and their parents pose together with British Council Philippines Director Nicholas Thomas and DOST-SEI Director Dr. Josette T. Biyo.

EXPANSIONS,
ASSISTANCE
PROGRAMS AND
JOB PLACEMENT
OF SCHOLARS

STRAND TO EXPAND
EDUCATIONAL NETWORK
FOR DOST-SEI GRADUATE
SCHOLARS

With the vision of expanding the list of universities in the country where DOST-SEI graduate scholars can enroll, the Science and Technology Regional Alliance of Universities for Inclusive National Development (STRAND) was set up.

An Evaluation Team headed by then DOST-SEI Consultant Prof. Fortunato T. de la Peña visited 11 higher education institutions (HEIs) in different regions of the country; evaluated their capacity to deliver the DOST-SEI Graduate Scholarship Programs in science, technology, engineering and mathematics (STEM); inspected their facilities relevant for research and development activities; assessed their curricula; and interviewed faculty staff and students. (See Table 3)

Table 3: List of HEIs in the Regions Visited and Evaluated	
Region	University
CAR	St. Louis University
I	Mariano Marcos State University
II	Cagayan State University
	Nueva Vizcaya State University
	Saint Mary's University
IV-A	Batangas State University
IV-B	Palawan State University
VIII	Eastern Visayas State University
X	Mindanao University of Science and Technology
	Central Mindanao State University
XI	University of South Eastern Philippines
XII	University of Southern Mindanao

L-R: Dr. Joselito L. Lolinco (Dean, Graduate School, MMSU) and the DOST-SEI Evaluation Team composed of Prof. Fortunato De La Pena, Alicia L. Asuncion and Charilyn Joy M. Layus visit MMSU Crop Research Laboratory.

The SEI Evaluation Team meets with the Dean and Faculty members of University of Southeastern Philippines (USEP).



Table 4: List of Science and Technology Assistance Program (STLAP) Activities Conducted in 2016			
TITLE OF ACTIVITY	ORGANIZER	DATE AND VENUE	NO. OF PARTICIPANTS
Gear Up: Research, Science, Technology and Career Education as Agents to Empower Minds and Careers	DOST-SEI PUP DOST Scholars' Organization	February 1-5, 2016 CEA Building, P UP Sta. Mesa, Manila	300
DOST Scholar's Summit (a component activity of Science Nation Tour – Bicol leg)	DOST V	March 3, 2016 Ayala Mall, Legazpi City	400
National DOST Scholars' Summit 2016 Amalgamate: Fostering Career Preparedness, Scientific Knowledge and Collaboration Towards Nation Building	UP DOST Scholars' Association	April 2-3, 2016 University of the Philippines - Diliman	300
Nationalism/Patriotism and Commitment and for the Country	DOST-CAR	April 2016 Baguio City	300
SEI-DOST Region III Scholar's Summit: Bawat Iskolar, Lingkod Bayani	DOST-III	April 13-14, 2016 San Fernando City, Pampanga	200
Thesis to Business (T2B) Program: A Techno-preneurial Seminar-Workshop for On-going DOST-SEI Undergraduate Scholars under RA7687 and RA 10612	DOST-I	July 20, 2016 San Fernando City, La Union	50 incoming 4th year students planning to work on their thesis
Scholars' Transformative Leadership Training and Teambuilding Activities	Camarines Norte State College (CNSC) DOST-SEI Scholars' Association	September 8-9, 2016 Basud, Camarines Norte	66
Think Outside the Box: Molding Scholars' Competence	RTU-DOST-SCAN (Scholars' Association)	October 11, 2016 Rizal Technological University	64
Job Hunting Seminar and Visit to DOST-AR	DOST-CAR	November 25, 2016 La Trinidad, Benguet	100 graduating scholars in CAR
2016 DOST-XI Scholars' Congress	DOST-XI	December 3, 2016 Davao City	200
Think Outside the Box: Molding Scholars' Competence Part 2	RTU-DOST-SCAN (Scholars' Association)	December 17, 2016 Bahay Pag-asa Youth Development Center, Mandaluyong City	69 scholars and children in Bahay Pag asa

Table 5. List of Scholars Employed through the Career Incentive Program	
DOST Agency	No. of Scholars Employed
Department of Science and Technology - Regional Office I	2
Department of Science and Technology - Regional Office III	1
Department of Science and Technology - Regional Office VIII	1
Department of Science and Technology - Regional Office X	3
Department of Science and Technology - Regional Office XI	2
Food and Nutrition Research Institute (FNRI)	9
Forest Product Research and Development Institute (FPRDI)	1
National Research Council of the Philippines (NRCP)	2
Industrial Technology Institute (ITI)	1
TOTAL	22

YEAR-ROUND ACTIVITIES
ENHANCE S&T LEARNING
ASSISTANCE PROGRAM

The Science and Technology Learning Assistance Program (STLAP) is a year-round program comprised of various activities such as Summer Orientation and Enrichment Program (SOEP), seminar-workshops on leadership, entrepreneurship and other topics, and Summer Practical Training Program (SPTP), among others. These are designed to help asses and enhance the intellectual potentials and psycho-social skills of scholars; equip them with coping skills needed in college study; and inculcate in them the values of social responsibility, leadership, academic excellence and personal integrity.

In 2016, a total of 11 activities were supported, held in various locations, i.e. Metro Manila, Legaspi City, Baguio City, Pampanga, La Union, Camarines Norte, La Trinidad in Benguet, and Davao City. These activities garnered a total number of 2,049 participants. (See Table 4)

CAREER OPPORTUNITIES
TAKE OFF WITH INCENTIVE
PROGRAM

The Career Incentive Program (CIP) ensures immediate placement of DOST scholar-graduates under ASTHRDP and ERDT and encourages them to pursue their S&T careers in the Philippines and serve as models for the next generation of scholars. Recipients may undertake R&D under a host scientist in an identified network institution or DOST research facility and are trained through actual involvement in R&D and other technological services.

In 2016, the Career Incentive Program (CIP) deployed a total of 22 scholar-graduates to various DOST agencies and Regional Offices. (See Table 5)





“The CIP has helped me maximize my potentials as a science researcher. With the help of my host institution, FNRI, I was given the right opportunities to explore other potential research areas, draft research proposals, conduct experiments and accomplish technical reports on my own; thus giving me more room to grow, become more independent and advance myself further in the field of research. The CIP program also serves as the perfect venue for me to apply the knowledge that I have gained in the graduate school. I am beyond grateful to have been chosen as one of the recipients of this program and in return, I promise to continue fulfilling all my duties, deliver quality work at all times, and exceed my institutions’ expectations.”

Dona Rose C. Layusa, MSc.
 Senior Science Research Specialist
 Food Research and Development Group – Food and Nutrition Research Institute

RECOGNITIONS AND CONFERENCES

DOST-SEI SCHOLARS RECOGNIZED FOR EXCELLENCE

In recognition of scholars who completed their PhD degrees, BS and MS scholars who graduated with honors and/or completed their degrees earlier than the prescribed period, a program dubbed “In Touch with Excellence” is held annually in conjunction with the National Science and Technology Week.

In 2016, a total of 540 and 220 scholars in the undergraduate and graduate levels, respectively, graduated with honors and/or received academic awards. The recognition ceremony was held at the Philippine International Convention Center, Manila last July 29, 2016.

Table 6 shows that for SY 2015-2016, 85 (39%) of the MERIT scholar-graduates finished with honors and/or received academic awards and two (2) completed their courses earlier than the prescribed period of their studies; 361 (30%) of RA7687 scholars topped their classes with academic honors and/or received academic awards and three (3) completed their courses earlier than the prescribed period of their studies; and 94 (30%) of RA10612 scholar-graduates made it to the honor roll.

Table 6: Number of DOST-SEI Undergraduate Scholars Graduated in SY2015-2016					
Program	Number of Scholars				
	Graduates	With Honors		Completed Earlier	
		No.	%	No.	%
RA 7687	1188	361	30%	3	0.2%
MERIT	216	85	39%	2	1.8%
RA 10612	311	94	30%	-	
Total	1715	540	31%	5	1.0%

In the graduate level, 13 MS and three (3) PhD scholars under the ASTHRDP graduated with honors and/or received academic awards; two (2) science education scholars received best dissertation awards; and four (4) ERDT scholars received academic distinctions.

DOST-SEI Director Dr. Josette Biyo explained that DOST-SEI envisions in the near future having more scholarship programs that will beef up the S&T human resources of the country, and building the capability of the academic institutions in the regions so that scholars need not go to Metro Manila to pursue quality college education.

DOST Secretary Fortunato T. de la Peña encouraged the scholars to pursue further studies through the various graduate scholarship programs of the DOST-SEI, which can make them more competent in their fields of studies.



Mr. Isaiah Paola Lee, recipient of MERIT scholarship and graduated as Summa Cum Laude at University of the Philippines-Diliman, delivers his message to his fellow scholar-graduates during the 2016 In Touch With Excellence.



Top scholar-graduates who gave their responses (standing from left): Mr. Isaiah Paolo Lee (undergraduate), Ms. Pamela Berilyn So (MS) and Dr. Ricver Ureta (PhD), pose with Ms. Alice Asuncion (Chief of STSD), Dr. Josette Biyo (SEI Director) Prof. Fortunato de la Peña (DOST Secretary) and Dr. Fabian Dayrit (Chair of NSC-Steering Committee).

Selected scholar-graduates gave their messages of thanks to DOST-SEI and inspired their fellow scholar-graduates to continue pursuing excellence even after graduation.

DOST-SEI HOLDS 1ST INTERNATIONAL ASTHRDP-NSC SCHOLARS CONFERENCE

Seeking to give its scholars a more global perspective in conducting and presenting their research outputs,

the DOST-SEI and the ASTHRDP-NSC held the 1st International Scholars' Conference with the theme: "Benchmarking S&T Towards Enhancing Global Competitiveness," on April 7-8, 2016 at the Philippine International Convention Center.

The conference stems from the annual local convention being conducted to give scholars the opportunity to share their research output through oral and poster presentations, and to update all participants with the new developments in S&T research. A total of 430 scholars, faculty members, guests and foreign participants from Taiwan, Korea, Malaysia and Thailand attended the conference.

DOST-SEI Director Dr. Josette T. Biyo emphasized that with globalization increasingly shaping the world, adopting the conference theme "Benchmarking S&T Towards Enhancing Global Competitiveness", was very timely.

Keynote speaker Dr. Rowena Cristina L. Guevara shared her journey as a scholar of Philippine Science High School during her secondary years, as a NSDB and DOST-ESP scholar during her undergraduate and graduate studies, respectively, and at present as the DOST Undersecretary for Scientific and Technological Services. She presented the harmonized national research and development agenda designed to alleviate poverty, promote inclusive growth, mitigate disasters and

adapt to climate change. She also discussed the S&T human resource development and the Balik Scientist Programs of the DOST.

The 2016 conference provided scholars and all stakeholders the opportunities to strengthen collaborative research among members of the ASTHRDP-NSC and foreign universities/institutions in climate change and disaster preparedness, materials science and nanotechnology, and natural products and drug development. The following prominent professors and researchers from the various universities/institutions visited by the benchmarking team were invited as plenary speakers:

- Prof. Seokwoo Jeon, Associate Professor, Department of Materials Science and Engineering of the Korea Advanced Institute of Science and Technology, discussed "Collaborative Research Ecosystem of Graphene."
- Dr. Khozirah Shaari, Director of the Research Management Center, Office of the Deputy Vice Chancellor for Research and Innovation of the Universti Putra Malaysia, discussed he topic "Approaches in Natural Products Research."
- Dr. Ben Jong-Dao Jou, Professor of the Department of Atmospheric Sciences, National Taiwan University, talked about "Monsoon Convection and Heavy Rain, A Fascinating and Challenging Scientific Problem."

The conference also featured a panel discussion on ethics and research productivity. Dr. Evelyn Mae Tecson-Mendoza, Academician of the National Academy of Science and Technology and Professor Emeritus of the Institute of Plant Breeding, Crop Science Cluster, College of Agriculture of the University of the Philippines-Los Baños, discussed about the ethical concerns in research and publication.

Dr. Jose Maria P. Balmaceda, Academician of the National Academy of Science and Technology, and Dean, College of Science, Institute of Mathematics, University of the Philippines-Diliman discussed the issue on perils of publishing, warning against predatory publishers and hijacked journals that pose threats to peer review and the integrity of academic publishing.

Dr. SEE Diu Seng, Solution Consultant, Thompson Reuters, shared some research evaluation best practices. In his presentation, he showed that the Philippines has been very focused on R&D and have better quality research compared to neighboring countries but still lags behind in terms of quantity.

One of the highlights in the conference was the presentation of research outputs of 112 and 114 scholars through oral report and poster presentation, respectively.

For the poster presentation, three presenters per category were declared winners in the Best Poster Competition. (See Table 7)



Dr. Isabel Montes, a graduate of the Straight BS-PhD program under ERDT, together with her mom, receives her plaque of recognition from DOST Secretary Prof. Fortunato de la Peña, Secretary of DOST (Left) and Dr. Josette T. Biyo, Director of DOST-SEI (Right).

Table 7: Winners of the Best Poster Competition per Category

CATEGORY 1: Agriculture/ Fisheries/ Environmental Science			
1st	Alvin D. Palanog	Grain Yield QTLs with Consistent-Effect Under Reproductive-Stage Drought Stress in Rice	UPLB
2nd	Andie John D. Tadeo	Artificial Incubation, Embryonic Development and Larval Rearing of Giant Gourami (Osphronemus goramy Lacépède, 1801)	CLSU
3rd	Loren Joy D. Estrebilllo	Development of Monsoon Indices for the Philippines Using Rainfall and Wind Data: Validation and Risk Analysis	UPD
CATEGORY 2: Biology/ Health Science/ Food Science/ Chemistry/ Natural Products			
1st	Lourd Franz M. Gabunada	Validation of AG1-d: A Candidate Gene for Anaerobic Germination in Rice (Oryza sativa L.)	UPLB
2nd	Melvir R. Sucaldito	Starch Based Biocomposites Reinforced with Cellulose Nanocrystals from Cladophorarupestris	DLSU
3rd	Jan Lorie M. Robil	Histological Localization of Tannins at Different Developmental Stages of Vegetative and Reproductive Organs in Medilla magnifica (Melastomataceae)	ADMU
CATEGORY 3: Mathematics/ Statistics/ Computing/ Physics/ Materials Science			
1st	Nikki T. Blas	A Mathematical Model of Transmission of Rice Tungro Disease by Nephotettix virescens	UPD
2nd	Jonathan C. Briones	Magnetic-Field-Enhance Morphology of Tin Oxide Nanomaterials for Gas Sensing Applications	DLSU
3rd	Jonjie M. Catibog	The Symmetric A-Like Matrices for the Johnson Graphs (n,2)	DLSU

Dr. Fabian M. Dayrit, Chair of the ASTHRDP-National Science Consortium Steering Committee, welcomes foreign speakers during the conference.

Prof. Seokwoo Jeon of Korea Institute of Science and Technology, talks about “Collaborative Research Ecosystem of Graphene”.



DOST Usec. Rowena Cristina L. Guevara, and DOST-SEI Director Dr. Josette T. Biyo cut the ribbon to signify the opening of the poster exhibit. They are joined by Dr. Maribel Nonetes of UST (2nd from left) and ASTHRDP-NSC Steering Committee chairman Dr. Fabian M. Dayrit (3rd from left).

Dr. Fabian M. Dayrit (Left) and Dr. Josette T. Biyo (Right) presented the Certificate of Appreciation to the panel discussants on ethics and research productivity: Dr. SEE Diu Seng, Acd. Evelyn Mae T. Mendoza, and Acd. Jose Maria P. Balmaceda (Center, Left to Right).



Dr. Josette T. Biyo, DOST-SEI Director, (Center) pose with ASTHRDP scholars.

TABLE 8: Number of Qualified Applicants: PD No.997, 2016	
Science and Technology (S&T) Fields	No.
DOCTORATE DEGREE	1
Ph.D in Environmental Science	1
MASTER'S DEGREE	40
Agricultural Science	3
Master of Agroforestry	2
Master in Animal Science	1
Biological Science	6
Master in Biology	2
Master in Science Education (Biology)	1
Master in Science	2
Master in Applied Science	1
Mathematics and Information and Communication Technology	26
Master in Applied Physics	1
Master in Computer Science	1
Master in Information Management	2
Master in Applied Math major in Mathematics	1
Master in Information Technology	21
Engineering Sciences	5
Master in Engineering	1
Master in Engineering Management	3
Master of Science in Industrial Engineering	1
TEACHING EXPERIENCE	8
RESEARCH EXPERIENCE	3
TOTAL	52

DOST ENDORSES APPLICANTS FOR S&T ELIGIBILITY SPECIALISTS

A total of 52 applicants were approved and endorsed by the DOST Secretary to the Civil Service Commission (CSC) Central Office and various concerned CSC Regional Offices for the grant of S&T Eligibility Specialist under Presidential Decree (PD) No. 997.

This law allows the conferment of Civil Service Eligibility to a scientific or technological specialist who gained advanced education and research and teaching experience. It is meant to encourage S&T specialists to get into public service through the issuance of Scientific and Technological (S&T) Specialist Eligibility.

The applicants were evaluated by the Technical Working Group and Presidential Committee on the bases of their qualifications and the requirements of public service. Table 8 shows the number of qualified applicants by S&T fields.



BUILDING SCIENCE AND TECHNOLOGY CULTURE

2

DOST-SEI SCHOLARSHIP PROMOTION AND EXPANSION

#PUSH4SCIENCE EXPANDS SCHOLARSHIP AWARENESS TO MORE MUNICIPALITIES

The project, #Push4Science: *Maging DOST Scholar Ka!*, is a strategic communication plan that aims to market the DOST-SEI Undergraduate S&T Scholarship Programs to municipalities that had no examinees in the 2015 Junior Level Science Scholarship Program.

In 2016, the campaign directly reached 139 out of the 750 target municipalities, and served 850 students and teachers from various universities and high schools in the following sites: Bacolod, Kulambugan, Maigo, Matungao, Pantar, Tagoloan, Tubod, Magsaysay, Munai, Nunungan, Pantao Ragat, Poona Piagapo, Sapad, Sultan Naga Dimaporo, and Tangkal in Lanao del Norte; Canlaon City, Guihulngan City, Jimalalud, San Jose, Bacung, Basay, Dauin, Siaton, and Valencia in Negros Oriental; and Bacnotan, Balaoan, Bangar, San Gabriel, Santol, Sudipen, Bagulin, Burgos, Naguilian, Pugo, and Rosario in La Union. Special sessions were also conducted in Basco and Itbayat, Batanes, and in Muntinlupa City, Metro Manila serving about 300 students.

AS THE PHILIPPINES SLOWLY TRANSITIONS TO A KNOWLEDGE-BASED ECONOMY, NATIONAL DEVELOPMENT POLICIES ARE GEARING TO MAKE INNOVATION A MAJOR DRIVER OF ECONOMIC DEVELOPMENT, AND A FOCAL POINT OF A CULTURE OF LEARNING AND PRODUCTIVITY.

In the Global Innovation Index report of 2016, the Philippines ranked 74th among 128 countries in terms of overall innovation, an improvement from the 83rd ranking in 2015. More optimistic numbers are bound to come as S&T indicators have registered continuous improvement in the last six years. The number of researches, scientists, and engineers has increased from 180 in 2009 to 270 in 2013, while the R&D budget allocation increased from P1 billion in 2009 to P5.8 billion in 2017.

Achieving a higher standard of S&T, and a national consciousness for innovation, will lay the foundation for a rapid, sustained and inclusive growth for Filipinos.



Grades 9 and 10 students from San Gabriel, La Union eagerly listen to testimonials from former DOST Scholars during the #Push4Science: Maging DOST Scholar Ka! campaign session held in December 2016.



The Campaign, which followed the promote-inspire-persuade framework, engaged freshmen and sophomore college students in comprehensive activities, such as inspirational talks from ongoing scholars and scholar-graduates, interactive activities, and scholarship orientation. The Caravan urged students to consider becoming teachers in secondary schools through the JLSS for Teaching Program. Application forms for the RA 10612 Program were distributed during the campaign, guiding students and school officials on the application process in full detail.

For the other municipalities that were not directly reached, scholarship campaign kits consisting of posters, brochures and other collaterals were provided to the PSTCs and the university officials to mobilize them to conduct their respective scholarship caravans, and to all DOST attached agencies in Metro Manila to promote the scholarship program. A multi-lingual radio plug about the JLSS was also transmitted to partners and radio contacts for airing.

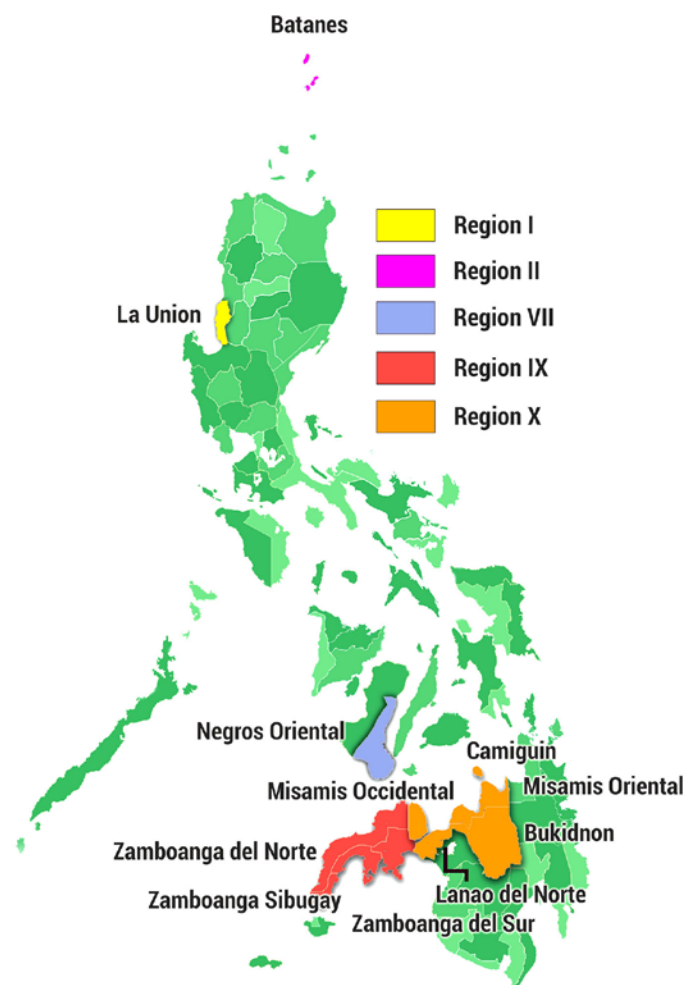


FIGURE 2:
Push4Science Municipalities Visited in 2016

ALTERNATIVE DELIVERY PROGRAMS AND INNOVATIONS

SCIENCE EXPLORER CONTINUES TO PROMOTE STEM AWARENESS

Six years into bringing fun and exciting science modules all over the country,

the Science Explorer broke new grounds by going to areas not yet covered in the past years.

The Science Explorer is a bus that contains science learning facilities such as audio-visual equipment, interactive exhibits, and various materials that are helpful in facilitating learning to under-privileged elementary and high school students. It also presents teachers and school officials an innovative and interactive way to teaching science, technology, engineering and mathematics (STEM).

For 2016, the Science Explorer served the indigenous students of Clark, Pampanga in partnership with the Philippine Science High School – Central Luzon Campus, with onboard experts on Chemistry and Geology. The project also touched base with the indigent young cancer patients at *Silahis ng Kalusugan*, Philippine General Hospital, providing a story-telling session and fun astronomy and robotics sessions for children in the ward.

For the first time, the Science Explorer also went to Visayas, servicing students of typhoon-hit municipalities of Palo, Babatngon and Tacloban in Leyte and Basey in Samar. It also served Typhoon Nina-devastated Pola in Oriental Mindoro. Experts on Climate Science, Marine Science, Geology, Astronomy, and Chemistry shared their skills to the students.

During the second half of 2016, the Science Explorer also served the students from Muntinlupa City; Echague, Isabela; San Ildefonso, Ilocos Sur; Las Pinas; and San Gabriel, La Union. A variety of modules on chemistry, microbiology, watersheds, chemistry, plant biodiversity, astronomy, and the scientific method were run by experts from these fields.

The Science Explorer conducted teaching enrichment activities on marine science and astronomy to boost the scientific knowledge of the educators and blend student-centered, fun science learning in their classrooms in the municipalities of Pola, Oriental Mindoro and Babatngon, Leyte.

The Science Explorer served a total of 4,287 students in 165 schools nationwide. (See Table 9)

Table 9: 2016 Science Explorer Attendees					
Month	Venue	No. of Schools Served	Female	Male	Total
February	Clark, Pampanga	12	168	158	326
	Silahis ng Kalusugan	1	22	27	49
March	Pola, Oriental Mindoro	29	364	195	559
June	Palo, Babatngon, Basey	38	373	216	589
July	Tacloban, NSTW	34	408	355	763
August	Isabela	18	422	212	634
September	Ilocos Sur	14	332	205	537
	Muntinlupa City	2	201	166	367
October	Las Pinas	1	60	48	108
December	San Gabriel, La Union	16	224	131	355
Total		165	2,574	1,713	4,287



The Science Explorer crosses the San Juanico bridge, the project's first foray into the Visayas.

Students from Echague, Isabela figure out with Chemistry Facilitator Michelle Manglicmot what is a base and an acid.

The project's Facebook page has 2,013 likes, up by 30.5% of last year's 1,542 likes with posts getting a maximum reach of 54% or 3,100 Facebook individuals. Intensifying its social media campaign, the Science Explorer also opened its Instagram account this year to connect even more to its young clients.

Young indigent cancer patients from the Silabis ng Kalusugan of the Philippine General Hospital interact with featured storyteller GMA-7 Reporter Lia del Castillo (seated at the center) who wrote the children's storybook, *Si Aiyah at ang Magic ng mga Bituin*.



Students from Palo, Leyte try out the anti-earthquake experiment they made for the Earthquake and Tsunamis module.

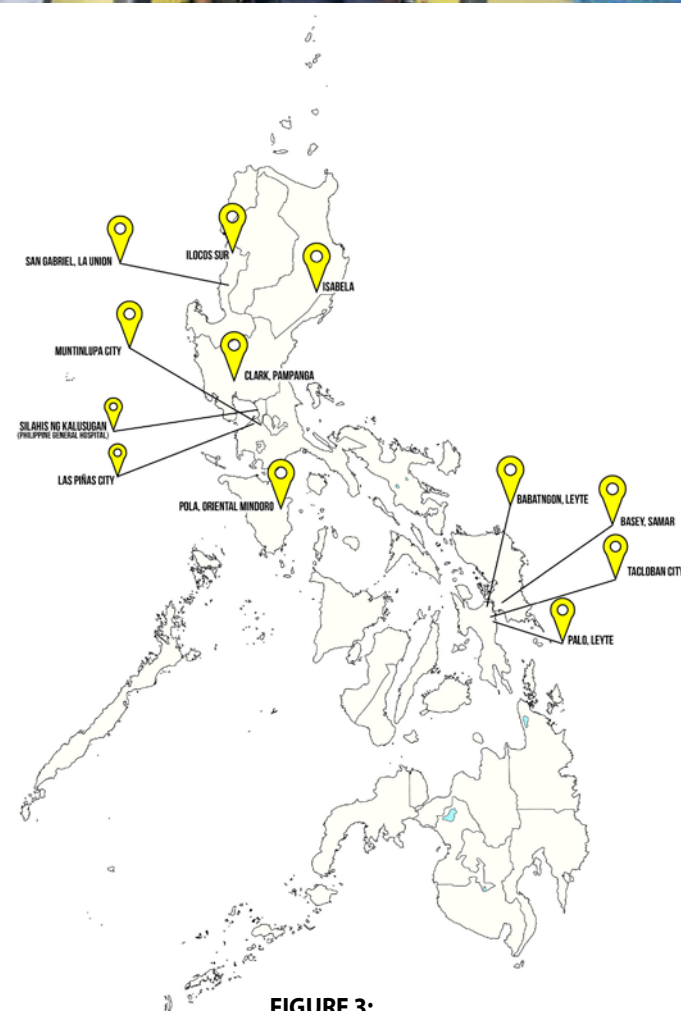


FIGURE 3:
Map of Locations Reached by the Science Explorer in 2016



The participants with the DOST - Undersecretary for S&T Services (center) Dr. Rowena Guevarra, PSTC Puerto Galera - Director (from left center) Mr. Jesse Pine, Camp Director Dr. Aletta Yñiguez of UP MSI, and Ms. Ruby Cristobal of DOST - SEI (right center).

OCEANS AND ATMOSPHERE TACKLED IN CLIMATE SCIENCE YOUTH CAMP

The DOST-SEI 2016 Climate Science Youth Camp was held in partnership with the Marine Science Institute of the University of the Philippines (UP-MSI) and Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) (DOST-PAGASA), with the theme *The Ocean and Climate Change: A Climate for Change*. The camp focused on how the fields of Oceanography and Meteorology play a vital role in understanding climate science and other environmental issues. Participants to the Camp were composed of 40 high school students in the 8th and 9th Grades and 20 teachers from Regions IV-B, V, VI and VIII.

Held at the Hollywood Palm Beach Resort in Puerto Galera, Oriental Mindoro on April 7-14, 2016, the camp covered major topics in Marine Science and Meteorology. The participants teamed up with scientists to get the feel of actual research and fieldwork done by experts through a variety of hands-on science modules such as Sampling a Changing Ocean, Plankton Survivor, Souring Oceans, Beach Profiling, Snorkeling 101, and Public Storm Warning Signal. The participants also learned the basics of Weather Forecasting and Reporting with the guidance of meteorologists and climatologists from DOST-PAGASA. Part of the activities at the Camp was the Community Immersion where students went to Brgy. Tabinay, Puerto Galera to gather data by interviewing the members of the community to assess their level of awareness on the indicators and effects of climate change.

Ms. Rica Dungog of UP-MSI mentors a student in observing microorganism such as forams and planktons.



Joseph Basconcillo, sub-camp Director on Meteorology and a Climatologist of DOST-PAGASA, eagerly mentoring the students about Weather Forecasting.

Students gathered around to learn the basic of Weather Data Collection from the Weather Forecasters of DOST-PAGASA.



IMAKE.WEMAKE ENHANCES PROJECT-PITCHING SKILLS

The project **imake.wemake** seeks to unleash the creativity of young Filipinos in Grades 11 and 12 to enable them to discover their potentials and learn the process of using innovation to achieve a particular purpose. It is packed with competencies such as project proposal making, communication skills, critical and analytical thinking, engineering and technical skills, and the value of risk and failure analysis. It zeroes in on the ability of young people to make use of available technologies, and transform passive learning into a practical, dynamic and collaborative approach.

In 2016, the program gathered project proposals from 19 schools, 13 of which moved on to the second stage wherein the participants pitched their projects to the *imake.wemake* Board of Judges composed of engineers from the academe and industry on December 5, 2016. The following day, they also attended a Technical Training and Workshop led by the ThinkLab engineers.

The 13 schools and their respective projects that passed the Preliminary Selection are shown on Table 10.

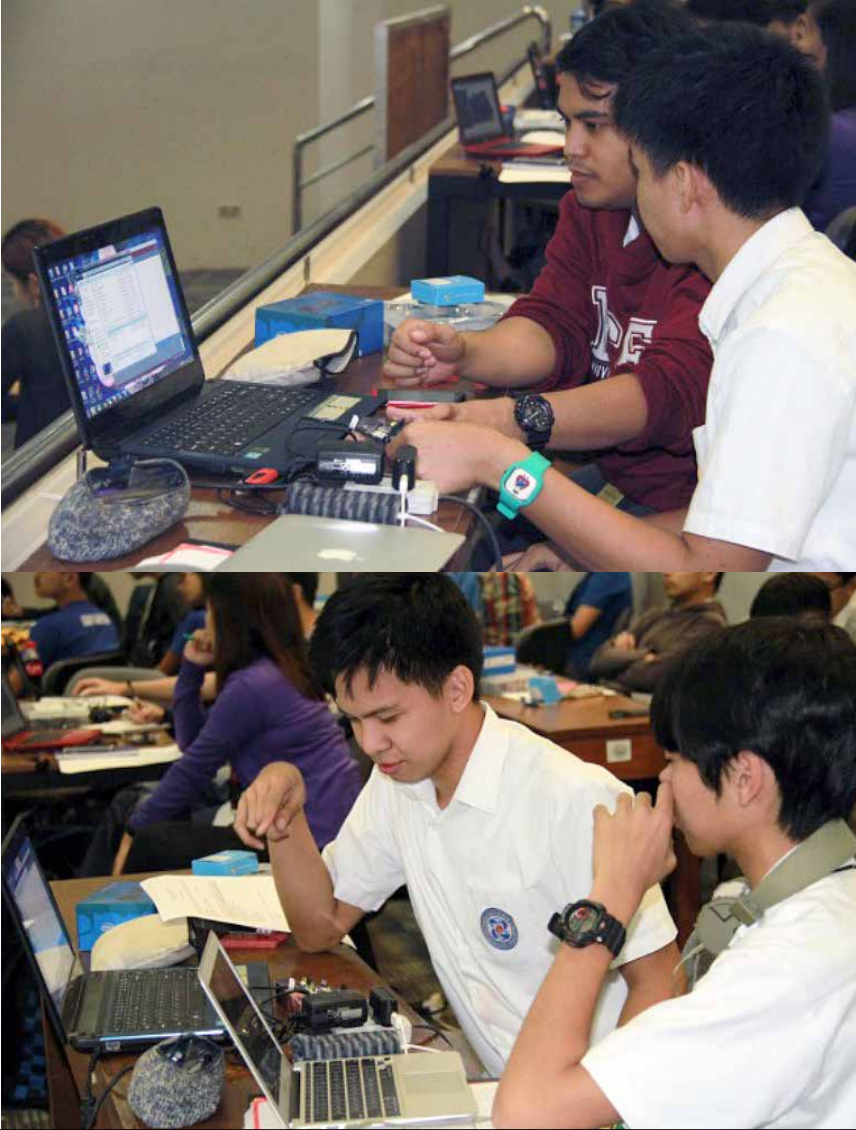
LOCAL AND INTERNATIONAL COMPETITIONS

WORLD SPACE WEEK CELEBRATION DRAWS MORE SCHOOLS

On October 5-7, 2016, the Philippines joined the countries comprising the league of space science and technology advocates in celebrating the XVII World Space Week with the theme “Remote Sensing: Enabling Our Future”. The celebration was held at the UP-Los Baños Campus with the following activities:

imake.wemake Technical Training and Workshop

Table 10: 2016 imake.wemake School-Participants	
Limay National High School	Maxima Hydropower Generator
Pitogo High School	Mitigating traffic using cost-effective automatic surveillance system (I.R.I.S. / Intercepting Relayed Imaging System)
PSHS – Cagayan Valley Campus	TRIP V 1.0 (Traffic Regulator Intel Project)
PSHS – Central Luzon Campus	Smart Parking System
PSHS – Central Mindanao Campus	Intel® Galileo-Based Carbon Monoxide Sensor and Alarm
PSHS – Central Visayas Campus	Project M.O.S.E.S. (Mitigation and Oplan Sagip from Earthquake Shake)
PSHS – Cordillera Administrative Region Campus	landslide warning system for Baguio City using the Intel Galileo Board li
PSHS – Eastern Visayas Campus	Water Rise Alert System
PSHS – Ilocos Region Campus	Automatic Control for Highway Enforcement of Road Regulations (ACHERR)
PSHS – Main Campus	Development of Embedded System Network for Combustible Gas Leak Detection
PSHS – Southern Mindanao Campus	i-SCA (Intelligent Service Crew Assistant)
Rizal National High School	AGREE Kultura
Valenzuela City School of Mathematics and Science	Two-Factor Security System for Motorcycles (BluSec™)



Students make a water-rocket model out of common materials such as PET bottles (1.5L), marker tape, and plastic folders.



Young students express their idea of space thru creative and colorful posters.



1st Place: Mark Samuel Subingco of Bayog Elementary School.



2nd Place: Lovely Esther Magtanob of Mayondon Elementary School



3rd Place: Jasmene Cathe Catedrilla of Lalakay Elementary School

• **Water Rocket Launching Competition.** A total of 56 public high school students and teachers from 14 Laguna-based schools attended a lecture on the physics of water rocket and were taught to make water rocket models which they used in the annual water rocket competition. The competition uses compressed air and water to propel the rocket to the target 100 meters away from the launch pad.

Sampaguita Village National High School headlined the top three winning teams of the Water Rocket Launching Competition. Other winners came from Unson National High School and Tuntungin Putho National High School. All three schools were to represent the country in the 23rd Asia Pacific Regional Space Agency Forum (APRSAF-23) Water Rocket Event.

• **Poster Making Contest.** Elementary students also joined in the celebration through the On-the-Spot Poster Making Contest. Carrying the theme: “My Dream Planet”, students aged 8-11 exercised their creativity and expanded their ideas about the universe in art form. Twenty (20) students from 12 Los Baños Elementary schools participated the poster making contest.

Mark Samuel Subingco from Bayog Elementary School emerged the winner while finishing second and third place were Lovely Esther Magtanob from Mayondon Elementary School and Jasmene Cathe Catedrilla from Lalakay Elementary School, respectively. Their entries would also compete in the APRSAF-23.

Students from Valenzuela School of Mathematics and Science learns about basic electronics and cansat prototyping.

• **Can Satellite Competition.** The CanSat competition, which has versions in Europe, the United States and Asia, was adopted by the country in 2015 as a platform to excite high school students in space science through development and launching of soda can-sized satellites that can gather atmospheric data.

In 2016, a weeklong training workshop held on August 29 to September 2 at the Institute of Mathematics, UP Diliman jumpstarted the competition. The number of participating school teams increased to 15, up from 10 in the inaugural contest held during the previous year. With 60 students and teachers from Region II, III, IV-A and NCR, participating, the training and workshop focused on the use of the Intel Edison board that was provided to each participating school team at no cost through a partnership with Intel Philippines. Participating teams were given 30 days to build their cansats and to test their designs before going to the launch competition.

During the celebration of the World Space Week, the participants tried out the cansat they made to perform atmospheric sampling (temperature and pressure) as the primary mission and transmit these data back to a ground receiving station. The cansats were deployed at an altitude of 80 meters using a UAV hexacopter. The teams then presented their analysis and results to a panel of judges composed of Dr. Rogel Mari Sese, Focal Person of Philippine Space Science Education Program (PSSEP), Engr. Mong Magpantay of UP-Electrical and Electronics Engineering Institute (UP-EEEI) and Robert Badrina of DOST-PAGASA.



The team from Rizal National Science High School composed of Josh Rael Jorquia, Matthew Lemuel Rey, Marla Ena Rosales and their coach. Marlon Sta. Catalina emerged as the winner and received a cash prize of P10,000, trophy, and the spot to represent the country in the APRSAF-23 CanSat Competition.

Students from Pitogo High School checks the wiring of their cansat before loading it to the UAV hexacopter.

Dr. Josette T. Biyo, DOST-SEI



Dr. Carol M. Yorobe, DOST



Dr. Nozomu Sakuraba, JAXA



PHILIPPINES HOSTS 23RD APRSAF

After participating in the Asia Pacific Regional Space Agency Forum since 2006, the Philippines hosted the event for the first time, conducting the 23rd APRSAF on November 15-18, 2016. DOST spearheaded the event together with the Department of Foreign Affairs of the Philippines (DFA), Ministry of Education, Culture, Sports, Science and Technology (MEXT) of Japan and Japan Aerospace Exploration Agency (JAXA).

The DOST-SEI took charge of conducting the side event of the APRSAF-23. The 23rd APRSAF side event officially opened on November 11, 2016 at the University of the Philippines – Los Baños (UPLB), Laguna. This international event drew the participation of 78 students, 32 coaches and 16 observers from 14 countries - Bangladesh, Cambodia, China, Indonesia, India, Japan, Malaysia, Nepal, Singapore, Sri Lanka, Pakistan,

Philippines, Thailand, and Vietnam. Participants comprised students aged 13 to 17 years.

Hosting the APRSAF-23 gave the Philippines a higher recognition status in the international community and presented an opportunity for the public to appreciate the contributions of space science technology and its application to national development, giving Filipinos a greater sense of national pride and identity. The following activities highlighted the event:

• **Opening Program and Cultural Presentations.** A cultural presentation participated in by country teams spiced up the opening program held at the Sol Y Viento Resort and Hotel in Calamba, Laguna on November 12, 2016. Among the dignitaries present were Dr. Carol M. Yorobe, Undersecretary for S&T Services of DOST, Dr. Josette T. Biyo, Director of DOST-SEI, and Dr. Nozomu Sakuraba, Director of Japan Aerospace Exploration Agency-Space Education Center - (JAXA-SEC). The UP Rural High School Glee Club welcomed the participants with popular Filipino folk songs to immerse them to a unique, and vibrant Filipino experience. Participants were also brought to Enchanted Kingdom as the venue of the cultural tour and welcome dinner.



DOST-SEI and JAXA-SEC jointly hosted the Welcome Dinner of the APRSAF23 side event.



Team Japan – Cansat Competition and Team Sri Lanka – Water Rocket Competition.



Students make sense of the data they gathered and explain their mission objectives before a panel of judges.



Participants design their own water rocket model.



The first batch of participants to the APRSAF23 Can Satellite Competition.



• **1st APRSAF Can Satellite Competition.** Nine (9) teams from five (5) countries composed of Japan, Nepal, Pakistan, Philippines, and Vietnam participated in the monumental Can Satellite competition. The cansat competition was an activity initiated by the Philippines as the country host. This was the first time for the Space Education Working Group of APRSAF to include Can Satellite competition as part of its side-events. This inaugural event makes use of space-based technology in order to further promote space education and astronomy to the youth.

• **Can Satellite Presentation.** Teams presented the data gathered from the cansat launch at UPLB. Each team was given 10 minutes to present and 5 minutes to answer the questions of the judges composed of: Ms. Kaori Sasaki of JAXA Space Education Center; Dr. Rogel Mari Sese, PSSEP Focal Person; Engr. Percival Magpantay of UP EEI and Mr. Robert Badrina of DOST-PAGASA.



Participants load their cansats to a UAV hexacopter which will be deployed 100 meters above ground. While descending using a parachute, the cansats should perform its primary mission to measure atmospheric conditions and send these data back to a ground receiving station.



Up, up and away. Students are all set for the water rocket launch.

• **Water Rocket Making.** The Water Rocket Making was held on November 13, 2016. Each student aged 12 to 16 was given two hours to make three water rockets they would use for the launch at the UPLB Lower Parade Ground. DOST-SEI provided all materials in making the water rockets.

• **Water Rocket Launch.** A total of 54 students from 13 countries in the Asia-Pacific Region participated in the Water Rocket Launch Competition conducted at the UPLB Lower Parade Ground. Each student was given a maximum of three launches (test launch, 1st and 2nd launch) during

the competition. The student who launched the rocket that landed nearest to the target 80 meters away from the launcher was declared the winner.

• **Space Education Seminar for Teachers.** As a parallel activity, the teachers and observers participated in the “Space Education Seminar for Teachers” led by SEC-JAXA. Each participating country gave a presentation to share their best practices in teaching as well current R&D efforts related to space science education.

• **Awarding Ceremony.** Held in Nuvali, Laguna, the Closing and Awarding Ceremony was graced by the DOST represented by Engr. Raul C. Sabularse, Deputy Executive Director of DOST-Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD), Dr. Josette T. Biyo, Director, DOST-SEI and Dr. Nozomu Sakuraba, Director, SEC-JAXA. An intermission number by UST Salingawi Dance Troupe performed famous Filipino folk dances to entertain the delegates.

See Table 11 for the list of winners.



Students carefully mount their water rocket models to the launchers.



Country representatives share their space science education initiatives.



UST Salingawi Dance Troupe.

Table 11: Winners of the APRSAF-23 Side Event	
Can Satellite Competition Overall Champion	Philippines Team A – Rizal National Science HS Coach: Mr. Marlon P. Sta. Catalina Students: Josh Rael Jorquia Matthew Lemuel Rey Arla Ena Rosales
Water Rocket Competition	1st Place - Khairul Ikmal Hakim Bin Nurisyam, Malaysia 2nd Place - Bayu Divi Tjahyono, Indonesia 3rd Place - Alfian Pebriansyah, Indonesia Best Combined Score - Nam Van Nguyen, Vietnam

Philippines Team A from Rizal National Science High School
Can Satellite Competition – Overall Champion



WRE Best Combined Score – Nam Van Nguyen, Vietnam



WRE 3rd Place – Alfian Pebriansyah – Indonesia



WRE 2nd Place – Bayu Divi Tjahyono – Indonesia



WRE 1st Place – Khairul Ikmal Hakim Bin Nurisyam – Malaysia



The winner for Best in Applied Research Award, Mr. Joselv E. Albano (second from the left) BS Biology student of Ateneo de Davao University, with BPI Executive Vice President Mr. Ramon Jocson, Dr. Josette T. Biyo (third from the left), DOST – SEI Director and Ms. Fidelina A. Corcuera, Executive Director of BPI Foundation Inc.



All smiles for Mr. Jerome Alan Japitana, a BS Chemistry student from University of Sto. Tomas, who bagged the Best in Basic Research Award and Best Project of the Year Award, with BPI Executive Vice President Mr. Ramon Jocson, DOST – SEI Director Dr. Josette T. Biyo (third from the left), and Ms. Fidelina A. Corcuera, Executive Director of BPI Foundation Inc.



TWO STUDENTS BAG BPI-DOST SCIENCE AWARDS

With the theme “Engineering the Future through Environmental Sustainability” the competition was jointly organized by DOST and BPI Foundation, to award the Best Thesis by graduating students pursuing science courses in eleven (11) accredited schools/universities drew 30 entries.

The preliminary judging was conducted on March 15, 2016 wherein the Board of Judges selected the top six (6) finalists for the Applied and Basic Research Categories. The judges were composed of five (5) experts recommended by DOST for the technical aspect, and five (5) from BPI for the business aspect.

The awarding ceremony was held on April 5, 2016 at the Mind Museum Special Exhibition Hall, Bonifacio Global City. The research of Jerome Alan S. Japitana, taking up BS Chemistry at the University of Santo Tomas, was awarded Best Project of the Year and Best in Basic Research Award for his project entitled “Using Non-Precious Materials in the Development of a Cost-Effective Cathode Catalyst for Direct Ethanol Fuel Cells.”

Meanwhile, the project of Joselv E. Albano, taking up BS Biology at Ateneo de Davao University, received the Best in Applied Research Award for his thesis on “Molecular Detection



The thirty finalists for these year’s BPI Science Awards with BPI Executive Vice President Mr. Ramon Jocson, Dr. Josette T. Biyo, DOST – SEI Director and Ms. Fidelina A. Corcuera, Executive Director of BPI Foundation Inc.

and Expression of merA and Mercury Reduction by *Pseudomonas putida*.”

MATH STUDENTS SHINE IN PHILIPPINE MATHEMATICAL OLYMPIAD (PMO)

The PMO, the oldest and the most prestigious national mathematics competition among secondary students in the country, had 4,533 students participating in the qualifying stage, out of which 212 were selected to proceed to the area stage competition held in the regional testing centers nationwide on November 19, 2016.

PHILIPPINES BAGS FIRST IMO GOLD MEDALS.

The 57th International Mathematical Olympiad (IMO) was held in Hong Kong on July 6-16, 2016. The Philippine team, composed of six (6) students, one Team Leader and one Deputy Team Leader, brought home two Gold medals for the first time in the history of the country’s participation in the IMO.

Kyle Patrick Dulay of the Philippine Science High School –Main Campus and Farrell Eldrian Wu of MGC New Life Christian Academy, bagged



The pride of the Philippines. The two gold medalists raising the Philippine flag in the 57th International Mathematical Olympiad Closing Ceremony, Farrell Eldrian Wu from MGC New Life Christian Academy (second from the left) and Kyle Patrick Dulay from Philippines Science High School – Main Campus (fourth from the right).



We Got Golds! The Philippine Team during the Closing Ceremony of the 57th IMO with Dr. Louie John Vallejo (left utmost), Deputy Team Leader Albert John Patupat, Farrell Eldrian Wu, Kyle Patrick Dulay, Clyde Wesley Ang, Shaquille Wyan Que, Vince Jan Torres, and Dr. Richard Eden, Team Leader.

gold medals. Clyde Wesley Ang of Chiang Kai Shek College, and Albert John Patupat of DLSU Integrated School, brought home silver medals. Shaquille Wyan Que of Grace Christian College and Vince Jan Torres of Sta. Rosa Science and Technology High School received honorable mentions.

Dr. Richard Eden from the Ateneo de Manila University and Dr. Louie John Vallejo UP-Institute of Mathematics led the Philippine Team as Team Leader and Deputy Team Leader, respectively. The Philippine participation to the 57th IMO was a partnership between DOST-SEI and Mathematical Society of the Philippines.



Arrival of the Team with Dr. Louie John Vallejo (left utmost) Deputy Team Leader, Ms. Ruby R. Cristobal, from DOST-SEI, Farrell Eldrian Wu, Kyle Patrick Dulay, Albert John Patupat, Clyde Wesley Ang, Shaquille Wyan Que, Vince Jan Torres, Dr. Ernie Lope, and Dr. Richard Eden, Team Leader.

FILIPINO STUDENTS CONTINUE TO DISPLAY MATH PROWESS IN AMC

On July 28, 2016, the Australian Mathematics Olympiad (AMC), an annual international correspondence-based mathematics competition administered by the non-profit Australian Mathematics Trust (AMT) simultaneously in different countries, drew the participation of 4,354 students from the Philippines – 28% more than the 3,400 local participants in 2015.

The AMC is considered as one of the largest competitions in the world,

drawing more than 400,000 students from 30 countries. It is conducted locally by DOST-SEI in cooperation with the Mathematics Trainers’ Guild (MTG), DOST Regional Offices and the Department of Education.

The 2016 AMC Awarding Ceremonies. With more than 300 students, parents and guests in attendance, the awarding ceremonies of the 2016 AMC was held on October 28, 2016 at the Citystate Tower Hotel, Ermita, Manila. Table 12 depicts the winners among the 126 other students who received Certificates of High Distinction.

Table 12: Winners of the 2016 Australian Mathematics Olympiad (AMC)		
Prize	Students	School
Perfect Score Peter O’ Halloran Certificate	Clyde Wesley S. Ang	Chiang Kai Shek College
Prize Awards	Andres Rico Gonzales III	Colegio De San Juan de Letran - Manila
	Luigi Trevor L. Lui	Grace Christian College
	Eion Nikolai S. Chua	International School Manila
	Sean Matthew G. Tan Jerome Austin Te Kyle Patrick F. Dulay	Jubille Christian Academy
	Christian Philip Gelera Walsh Nico Adrian L. Letran	PSHS - Main
	Lance Heinrich S. Lim Nicholas Marcus B. Lua	St. Jude Catholic School
	Genrish Wendell N. Ng Immanuel Josiah A. Balete	St. Stephen’s High School

YOUTH EXCELLENCE IN SCIENCE AWARDEES INCREASE SIGNIFICANTLY

In 2016, 831 students from 248 schools won international awards in various STEM competitions and were included in the list of YES awardees. This represents a 36% increase over the 609 international medalists recorded in 2015. Among the awardees, 446 came from NCR and 385 from the regions.

The YES Awards, a DOST institutional award for exemplary achievement of the youth in the fields of science and mathematics, recognizes the winners in international science and mathematics competitions duly registered with DOST-SEI and supported by national organizers such as the Mathematics Trainer’s Guild (MTG) Philippines, Mathematics Development Academy of the Philippines (MDAP), Mathematical Society of the Philippines (MSP), FELTA Multi-Media, Inc., Philippine Science High School System, and Pinoy Robots Games.

INDIE-SIYENSYA SCIENCE FILM-MAKING COMPETITION TAKES OFF

As a pioneering step in bringing science closer to the youth and the general public, DOST-SEI organized the Indie-Siyensya science film-making competition, with the objective of encouraging the youth to communicate scientific concepts through film, and learn the processes involved in documenting researches and other S&T topics.

Launched on October 21, 2015 at the Philippine Science Heritage Building, DOST Compound, Taguig City, the 1st Indie-Siyensya Film-Making Competition carried the theme: *Spectrum: Capturing the Colors of Science*. The competition was opened to young individuals 16-21 years old.



Film Screening of official entry films of the 1st Indie-Siyensya Competition.



In 2016, sixteen (16) official entries were accepted, screened, and evaluated by the Board of Judges composed of science advocates and film experts. The entries were also uploaded on YouTube for public viewing and online voting from March 17-31, 2016, for the Viewer's Choice Award. Film screenings were also conducted on March 29-30, 2016 at the Philippine Science Heritage Building, with 129 attendees from secondary and tertiary schools in the Cities of Taguig, Paranaque and Muntinlupa.

In the closing ceremony on April 1, 2016, the following films were awarded:

Best Film:
Bonding Tayo by Marvin Nofuente
 2nd Best Film:
Bathala by Dre Ferrer
 3rd Best Film:
Pwede Bang Red Ulit?
 by Princess Bacani
 Viewer's Choice Award:
Sky is Home by Caryl Jean Tolentino

Awarding ceremony of the 1st Indie Siyensya Competition.



Photos taken during the conduct of the Science Film Showing as part of the National Science and Technology Week 2016.

The project was also featured in the annual National Science and Technology Week celebration held in DOST Bicutan, Taguig City. The winning films were screened for public viewing on July 25 and 29, 2016 at the Philippine Science Heritage Center. The said activity was attended by 279 students and teachers from elementary, secondary, and tertiary schools from the National Capital Region (NCR).

GIFTED SCIENCE STUDENTS JOIN APTJSO EDUCATIONAL EVENT

Organized by the ASEAN +3 Center for the Gifted in Science (ACGS), the ASEAN Plus Three Junior Science Odyssey (JPTJSO) is an annual educational event for young students aged 13-15 years old. It is designed to develop the gifted and talented young individuals to excel in the field of science and technology and to nurture future scientists and engineers while providing students with opportunity to foster friendship and networking in the APT region.

The 5th APTJSO was hosted by the Philippines thru DOST-SEI, in partnership with the University of the Philippines-Los Baños (UPLB), and in cooperation with the National Academy of Science and Technology (NAST). It was a week-long event held on June 13-18, 2016, and was comprised of three (3) activities: 1) Poster Presentation; 2) Laboratory Skills Assessment; and 3) Group Project Presentation. Teachers and observers had a parallel activity where they shared their best practices and innovations in teaching science and technology in their respective countries. The following activities highlighted the 5th APTJSO:



Dr. Rowena Cristina L. Guevara (left), DOST Undersecretary for S&T, gave the Opening Remarks during the Opening Ceremony of the 5th APTJSO; while Prof. Sang Chun Lee (right), Chairman of the ASEAN Center for the Gifted in Science gave his message to the competing teams, who joined the event.

Dr. Josette T. Biyo, DOST-SEI Director, introduced the participating teams of the 5th APTJSO.



• **Opening Program and Plenary Talk.** Attended by 78 gifted students and 26 coaches from Brunei Darussalam, Cambodia, China, Indonesia, Korea, Laos, Malaysia, Myanmar, Philippines, Sweden, Chinese Taipei, Thailand, and Vietnam, the opening event was graced by UPLB Chancellor Dr. Fernando C. Sanchez, Jr., who delivered the Welcome Remarks; DOST Undersecretary for S&T Services Dr. Rowena Cristina L. Guevara, who officially launched the opening of the 5th APTJSO; and Head of Science and Technology Division Sectoral Development Directorate Dr. Alexander A. Lim, and Chair of ASEAN +3 Center for the Gifted in Science (ACGS) Prof. Sang Chun Lee, who both gave their greetings as well as

The Opening Ceremony was also attended by the incoming DOST Secretary, Prof. Fortunato T. De La Peña.



Plenary Talk of Dr. Rodel Lasco during the Opening Ceremony of the 5th APTJSO.



Statement of Purpose of the event. DOST-SEI Director Dr. Josette T. Biyo introduced the participating teams.

Also in attendance were other DOST and UPLB officials, Philippine Science High School Campus Directors, representatives from the Malaysian, Chinese, Chinese Taipei, Thailand Embassy and the Philippine Center for Gifted Education.

Dr. Rodel D. Lasco, country coordinator of World Agroforestry Center, delivered a plenary talk on this year's theme, "Climate Change and the Rainforest".



• **Poster Presentation.** A total of 26 teams exhibited their scientific posters based on the theme: "The Role of the Rainforest in Climate Resiliency." Each team was given 8-10 minutes to explain their research to the Board of Judges composed of: Dr. Arvin Diesmos of the National Museum of the Philippines; Dr. Dennis Umali of the College of Veterinary Medicine, UPLB; and Dr. Aimee Lynn Dupo of the Institute of Biological Sciences, UPLB. Each poster was evaluated based on the following criteria: Poster Appearance (15%); Content Organization (20%); Adherence to the theme (15%); Accuracy and clarity of content (30%); and Validity of Conclusion (20%).



Participants showcased their poster presentations on the theme "The Role of the Rainforest in Climate Resiliency" at the lobby area of the Dioscoro L. Umali Auditorium during the 5th APTJSO. China netted first place in the poster presentation, followed by Indonesia and Korea.

• **Welcome Dinner.** At the Sol y Viento Resort and Hotel, participants and guests were entertained with native dances performed by the students of the Philippine High School for the Arts (PHSA). Participants were also asked to meet according to mixed groups to design their T-shirts and banners. The evening dinner became an avenue for the participants and guests to socialize and be acquainted with one another.

• **Tree Planting / Field Work and Field Exposure / Amazing Race.** Held at the Makiling Botanic Garden in UPLB, the second day of the 5th APTJSO started with the tree planting activity, initiated by ACGS officials and staff, students, coaches, and observers from the participating countries. Dr. Rex Victor Cruz, Chair of the Technical and Rules Committee, oriented the participants about the site and about project iTree, wherein the participants can monitor the status of their planted seedling online. Aside from the Tree Planting activity, the students had their field work in Biology while the teachers toured the Garden. In the afternoon, the students conducted their field exposure to gather data for the Project Pitching while the coaches were transported to Forest Club in Bay, Laguna for the Amazing Race for Teachers.



Tshirt and Banner Design Making for Field Exposure.



Students go through Field Work in Biology



Biology Laboratory Skills Assessment



Physics Laboratory Skills Assessment



Chemistry Laboratory Skills Assessment

• **Laboratory Skills Assessment/ Educator's Walk the Talk Forum.** The Laboratory Skills Assessment started with a quick orientation held at the Institute of Biological Sciences (IBS) Lecture Room led by Dr. Rex Victor Cruz, Chair of the Technical and Rules Committee. The competition focused on assessing each team's skills on : 1) the use of laboratory apparatus, teamwork; 2) mathematical skills; 3) data collection and interpretation; 4) time management; 5) creativity and innovation. This competition had the highest weight with 50% of the overall performance in the 5th APTJSO.

The coaches participated in the "Educators' Walk the Talk towards Climate Resiliency Forum" held at the Sol Y Viento Hotel. Dr. Carlos Primo C. David, Executive Director of Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD) gave a talk highlighting the role of research and development in education, while Dr. Rogel Mari Sese shared his expertise in space science education.

• **Project Pitching.** Twelve (12) mixed groups presented their project proposals in line with the theme: "Protection and Conservation of the Rainforest." Each group was given 10 minutes to present their proposal to the Board of Judges, composed of: Dr. Rex Victor Cruz, Chair of the Technical and Rules Committee (TRC), and TRC members Dr. Nathaniel Bantayan, Dr. Florencia Pulhin and Dr. Damasa Magcale-Macandog. This project pitching accounted for 40% of the overall performance in the competition.



Dr. Carlos Primo David, Executive Director - PCIEERD

• UPLB Campus Tour

After the 4-day competition, the students, coaches and observers of the different participating teams toured UPLB to explore the different learning facilities in the campus, namely, International Rice Research Institute (IRRI) Museum, Institute of Plant Breeding, National Institute of Molecular Biology and Biotechnology, and Museum of Natural History.

• **Closing Ceremony and Awarding of Winners.** DOST, UPLB and ACGS Officials graced the Closing and Awarding Ceremony held at D.L. Umali Hall on June 18, 2016. A total of 23 participating teams received awards in the following categories: 1) Poster Presentation: Biology, Chemistry, Physics; and 2) Overall Laboratory Skills Assessment, Project Pitching; and 3) Overall Performance Award. Out of the 26 participating teams, Brunei Team A bagged the Gold Award for the Over-all Performance while Philippines Team A and D were awarded Silver and Bronze for the Over-all Performance, respectively. (See Table 13)

SEI ENGAGES STAKEHOLDERS WITH 2016 STRATEGIC COMMUNICATION PLAN

To communicate the importance of developing S&T human resources, spread greater awareness of its various programs and policies, and entice more students to take interest in S&T careers, DOST-SEI developed and implemented a comprehensive 2016 Communication Plan that captured the entire gamut of communication strategies employed to get to its target audiences.

Bringing relevant information on science education to the general



Over-all Performance 3rd Place - Philippines Team D (Bronze)

public, the Institute produced and sent 20 press releases to different media outlets, generating 69 media placements, including TV and radio spots in major broadcast networks.

DOST-SEI social media engagement was at its peak in 2016 as it connected with more netizens. Its Facebook account had followers that rose to 23,721, a 73.63% increase from 13,663 in 2015. The biggest social media engagement was observed during the application period and the release of the 2016 Junior Level Science Scholarship results.



Over-all Performance 2nd Place - Philippines Team A (Silver)



Over-all Performance 1st Place - Brunei Team A (GOLD)

Table 13: List of Awardees of the 5th APTJSO		
Overall Performance (100%) <ul style="list-style-type: none">• GOLD – Brunei Team A (79.83)• SILVER – Philippines Team A (79.19)• BRONZE – Philippines Team D (78.07) Overall Laboratory Skills Assessment (50%) <ul style="list-style-type: none">• GOLD – Brunei Team A (77.86)• SILVER – Philippines Team A (75.28)• BRONZE – Chinese Taipei A (73.13) Biology Laboratory Skills Assessment <ul style="list-style-type: none">• Gold – Philippines Team A (93.0)• Silver – Philippines Team D (91.0)Philippines Team C (90.0)Cambodia Team B (89.4)Chinese Taipei B (88.4)Philippines Team B (88.3)Sweden Team A (87.7)• Bronze – China Team A (87.0)Malaysia Team A (87.0)Malaysia Team B (87.0)Korea Team A (86.67)Brunei Team A (86.07)Chinese Taipei Team A (85.07)Vietnam Team A (84.67)	Chemistry Laboratory Skills Assessment <ul style="list-style-type: none">• Gold – Chinese Taipei Team A (77.0)• Silver – Philippines Team B (72.5)Brunei Team A (69.5)Chinese Taipei Team B (69.5)Philippines Team D (69.0)Philippines Team C (68.5)Philippines Team A (67.5)• Bronze – Indonesia Team B (54.5)Korea Team A (49.5)Indonesia Team A (42.0)China Team A (40.5)Thailand Team A (40.0)Thailand Team B (38.5)Sweden Team A (38.0)	Physics Laboratory Skills Assessment <ul style="list-style-type: none">• Gold – Brunei Team A (78.0)• Silver – Philippines Team A (65.33)Chinese Taipei Team A (57.33)Chinese Taipei Team B (56.0)Korea Team A (55.33)Philippines Team D (54.0)Sweden Team A (53.3)• Bronze – Brunei Team B (52.0)Thailand Team B (50.0)Malaysia Team B (48.0)Sweden Team B (46.67)Indonesia Team B (45.33)Cambodia Team A (44.0)Philippines Team C (42.0) Project Pitching (40%) <ul style="list-style-type: none">• GOLD – Group Apitong (90.5)• SILVER – Group Anahaw (88.75)• BRONZE – Group Almaciga (87.5)

Putting across the importance of science education and its role in national development, the communication strategies included a variety of fun, exciting approaches to trigger the interest of the young and entice them into careers in science.

DOST-SEI showcased its programs to the youth as it participated in the 2016 National Science and Technology Week with the theme: “Juan Science, One Nation.” A total of 4,787 visitors were engaged by DOST-SEI through its Juanderwalk Exhibit, which showcased the different programs of the agency. DOST-SEI also conducted an inspirational career talk on space science, entitled “TEC Talk: Space Science,” participated by 54 invited DOST scholars.

Reaching out to the regions, SEI also led the DOST participation in the 2016 Science Film Festival which garnered a total of 41,502 viewers.



Students take a look at the SEI exhibit in the 2016 National Science and Technology Week.



STRENGTHENING CAPABILITIES IN SCIENCE AND TECHNOLOGY EDUCATION

3

TEACHER TRAINING PROGRAMS

PROJECT STAR TAKES OFF

FOR EDUCATION TO BE TRULY TRANSFORMATIVE, SUSTAINABLE AND INCLUSIVE, POLICIES AND SYSTEMS MUST BE IN PLACE TO ENSURE A CONTINUOUS AND EVER IMPROVING LEARNING LEVELS NOT JUST FOR STUDENTS BUT FOR ALL ITS STAKEHOLDERS. OPENING OPPORTUNITIES TO EDUCATION FOR ALL – REGARDLESS OF CIRCUMSTANCE. LOCATION OR ETHNICITY -- MUST GO HAND IN HAND WITH MAKING OUR INSTITUTIONS AND EDUCATORS MODELS OF CAPACITY-BUILDING AND RECIPIENTS OF UPSKILLING PROGRAMS.

Towards this end, it is our critical role to continuously develop institutions competencies and environments that facilitate critical knowledge and skills acquisition, encourage innovative and creative thinking, and produce empowered and engaged citizens. Education should be a catalyst for adopting multiple perspectives – economic, environmental, socio-cultural, ethical – that drive inclusive progress.

After holding a goal-setting workshop in 2015 covering the next three years, the Science Teacher Academy for the Regions (STAR) set off on its objective of implementing innovative teacher trainings in various places of the country for the benefit of in-service and pre-service science and mathematics education teachers.

The program has engaged the participation of DOST-SEI's institutional linkages situated in six (6) regions of the country, namely: Mariano Marcos State University (MMSU), Region 1; Central Luzon State University (CLSU), Region 3; Bicol University (BU), Region 5; Philippine Normal University (PNU), National Capital Region; West Visayas State University (WVSU), Region 6 and Mindanao State University - Iligan Institute of Technology (MSU-IIT), Region 10.

Two training topics were introduced in 2016. The first was "Teaching Elementary Mathematics through Problem Solving" wherein problem solving was highlighted as a means to teach and learn mathematics. The said topic that was first introduced in 2014 and was continued until 2016 due to its relevance and of the positive feedback it received from teachers, and supervisors.

The second training topic was "Interdisciplinary Contextualization (ICon) for Science and Mathematics Education" which emphasized the relevance of connecting and reinforcing



Teacher-participants and pupils take part during the lesson implementation.



Teachers are doing the hands-on activity about how the salivary amylase works and aids in breaking down food in the mouth.



The Project Consultant, Dr. Rosanelia T. Yangco of UP College of Education explained and clarified teachers' misconceptions.

Module Writer/Speaker Mr. Job S. Zape, Jr. of DepEd IVA analyzed how the teachers grouped the terms about Biodiversity (Module 3).



Table 14: List of Trainings and Beneficiaries under Project STAR						
DATE	TITLE OF TRAINING	VENUE	Number of beneficiaries			
			MALE	FEMALE	TOTAL	No. of Province/s Served
March 01-03	Teaching Elementary Mathematics through Problem Solving (Regional Training)	Central Luzon State University, Eegion 3	10	41	51	1 Nueva Ecija
April 18-20	-do-	Mariano Marcos State University, Region 1	13	38	51	4 Ilocos Sur Ilocos Norte Pangasinan La Union
April 26-28	-do-	DepEd - RELC, Region 10	7	41	48	5 Bukidnon Misamis Occidental Misamis Oriental Camiaguin Lanao del Norte
May 24-26	-do-	DepEd - RELC, Region 6	7	43	50	5 Iloilo Antique Aklan Capiz Guimaras
July 07-09	Interdisciplinary Contextualization (Icon) for Science and Mathematics Education (Training of Trainers)	St. Giles Hotel, Makati City	14	31	45	6 Ilocos Norte Nueva Ecija Manila Albay Lanao del Norte Iloilo
Oct 11-13	Icon for Science Education (Regional Training)	MSU-IIT, Iligan City	9	41	50	5
Nov 03-05	-do-	Mariano Marcos State University, Region 1	23	27	50	4
Nov 09-11	-do-	Central Luzon State University, Region 3	17	33	50	7
Nov 11-13	-do-	West Visayas State University, Region 6	17	33	50	5
Nov 15-17	-do-	Pagadian City	8	42	50	1
Nov 22-24	-do-	Bicol University, Region 5	13	37	50	6

subjects within learning areas. The topic is very much attuned to the goal of the K to 12 curricula. A trainers-training was initially held to familiarize the STAR trainers with the concepts on contextualization, interdisciplinary teaching approaches, teaching mathematics through problem solving, and inquiry-based science through 7E model, to name a few. A series of regional trainings were held thereafter. (See Table 14)

E-STAR ONLINE FACILITY LAUNCHED

The e-STAR was launched in 2016 to serve as the online facility where training outputs, such as lesson exemplars and sample activities of project STAR are uploaded. The launching was held on December 15, 2016 where the Memorandum of Understanding (MOU) with network institutions for the expansion of STAR was also signed.

NON-BIOLOGY MAJORS TEACHING LIFE SCIENCE UNDERGO TRAINING WORKSHOP

The project aims to develop modules about content and pedagogy for teachers who are teaching Biology without expertise in the subject (non-majors); and to conduct teacher training on the modules developed. In 2016, 30 Grade 8 Teachers went through two training program phases:

PHASE 1: Module Development.

The team of four module writers from DOST-SEI, DepEd IVA, Philippine Normal University (PNU) and La Salle Green Hills (LSGH) convened and selected the fourth quarter lessons in Grade 8 for module development.



The teachers consult with Ms. Ivy P. Mejia, resource person from UP NISMED, on the development of inquiry-based science lesson activities during the Project HOTS seminar-workshop.

PHASE 2: Teacher Training. The modules developed were pilot tested in the teacher training held in November 9-11, 2016 at Estancia Hotel Resort, Tagaytay City. The lessons prepared were among the topics in Biology considered to be difficult to teachers, especially by non-specialists (non-majors). Hands-on, experimental/laboratory, outdoor and collaborative activities were introduced to the teachers to raise their confidence in teaching the lessons. A formative assessment for each session was also done to determine the problems or areas of improvement in each topic lesson.

A total of 30 teachers from Region IV-A attended the training.

PROJECT HOTS STRENGTHENS INQUIRY-BASED TEACHING

To promote inquiry-based science education in schools, four batches of three-day, 21-hour seminar-workshop



The teacher-participants from the batch 4 of Project HOTS seminar-workshop actively performed the inquiry-based lesson activity on the topic "Ecosystem".

were conducted in April and May 2016 as the first phase of a program designed to provide professional development opportunity for elementary science teachers in the Schools Division of Taguig City and Pateros.

A total of 113 Grade 4 teachers from 29 schools participated in the seminar-workshop that exposed them to the features of inquiry-based teaching; inquiry-based teaching of force,



Grade 4 students from Dr. Artemio E. Natividad Elementary School (DANES) identified which objects were attracted and not attracted by magnet as part of their activity under the lesson "Magnet".

motion & energy; ecosystem, earth and space; the lesson study (nature, steps/process); development of the research lesson and presentation and peer-review of the draft lesson; and formulation of long term goals and sub-goals. The training was conducted in four batches: April 12-14, April 26-28, May 4-6, and May 24-26, 2016.

In Phase II, the inquiry-based science lessons developed collaboratively during the training were implemented in ten schools, which were selected based on the following with large number of enrollees, with teachers who have major or minor in science, with computers, LCD projectors, supportive principals, and capabilities to form a Lesson Study Group.

The Lesson Study Group assessed the pupils' responses to the lesson, gathered feedback from the rest of the research team, and revised the lesson plan accordingly for implementation and further refinement by another teacher participant in another class. This cycle went on for as long as there were observed areas for improvement in the lesson based on its effect on pupil learning.

UPNISMED staff conducted the seminar-workshops where the lesson study was facilitated by the school faculty, Education Program Supervisor, School Principal, and DOST-SEI staff.

From August to November 2016, follow through activities were conducted in the following schools:

- Ciriaco P. Tinga Santos Elementary School
- Napindan Integrated School
- Eusebio C. Santos Elementary School
- Ususan Elementary School
- Kapt. Jose Cardones Elementary School
- Maharlika Elementary School
- Em's Signal Village Elementary School



Ms. May Chavez (right) of UP National Institute for Science and Mathematics Education Development (UP NISMED) observed a group of Grade 4 students from Capt. Hipolito Francisco Elementary School doing activity under the lesson "Path of Light".

Eusebio C. Santos Elementary School received the Certificate of Recognition for being one of the Most Promising School Implementers of the Lesson Study under Project HOTS. The school is represented by the school principal Mr. Leonardo A. Ebona (center), and teacher implementers Mr. Kris-Ian C. Obreque and Mr. James Patrick Esparar.

- Kapt. Eddie Reyes Memorial Elementary School
- Dr. Artemio Natividad Elementary School
- Capt. H. Francisco Elementary School

On December 14, 2016, Eusebio C. Santos Elementary School and Kapt. Eddie Reyes Integrated School were recognized as the two Most Promising School Implementers of the Lesson Study. Both schools received a set of ICT equipment composed of a laptop, printer, LED projector and pocket wi-fi.

DISASTER RISK REDUCTION AND MANAGEMENT INCORPORATED IN K-12 CURRICULUM

As part of the Institute's continuing commitment to Republic Act No. 10121 or the Disaster Risk Reduction and Management (DRRM) Act of 2010, a two-part project was conducted with the aim of increasing the capacity of science teachers to implement DRRM and related lessons for grades 7-10 based on the K-12 Curriculum.

A three-day training was conducted for science teachers to enhance their knowledge on natural disasters, and its management. The training also provided opportunity for teachers to develop skills in preparing inquiry-based DRRM lessons that were aligned with the K to 12 curriculum. Before the actual training, a preparatory activity involved reviewing and updating of the DRRM manual as an accompanying material for the trainings. The DRRM Manual for Science and Mathematics Teachers developed in 2012 was updated through a writeshop held on August 5, 2016 at La Breza Hotel in Quezon City.



Kapt. Eddie Reyes Integrated School received the Certificate of Recognition for being one of the Most Promising School Implementers of the Lesson Study under Project HOTS. The school is represented by the teacher implementers Ms. Rica R. Lamigo and Ms. Emerose J. Pacheco (center).

The following experts participated in the writeshop:

1. Mylene Villegas, Philippine Institute of Volcanology and Seismology (PHIVOLCS)
2. Raymond Ordinario, Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)
3. Rosalie Pagulayan, PAGASA
4. Raymond Thaddeus Ancog, DENR Mines and Geosciences Bureau
5. Manuel Nivera Jr., Office of Civil Defense (OCD)
6. Aurora dela Rosa, OCD



Lesson implementation on the topic "Volcanic Eruption" using the inquiry-based approach.

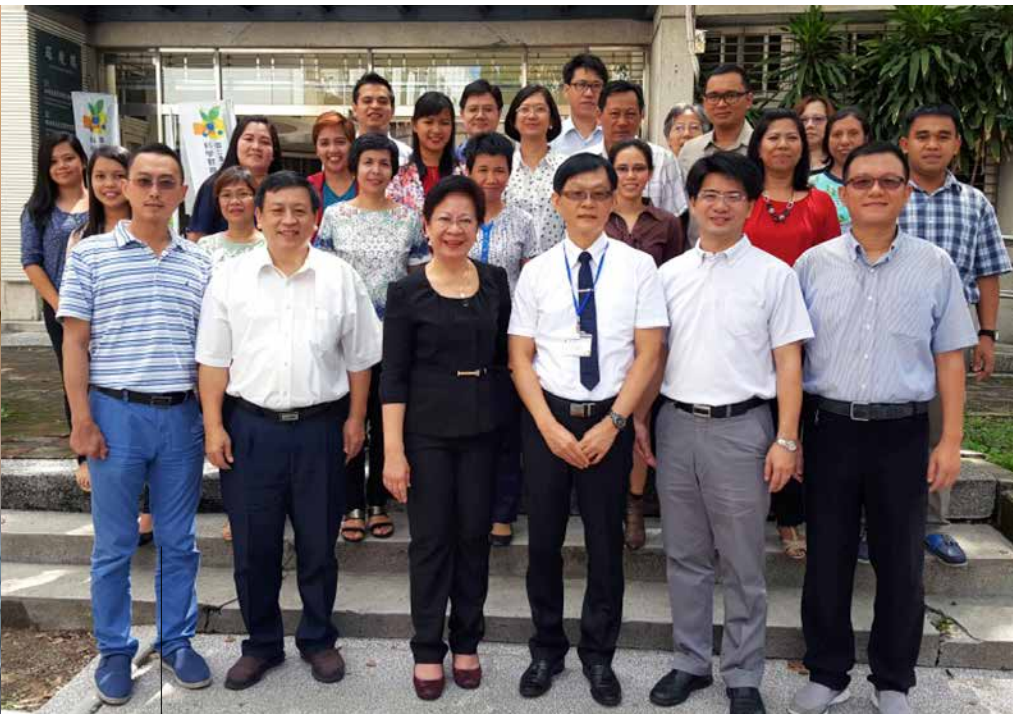


Analysis of Landslide and Flood Hazard Map of Balanga City, Bataan.

The updated DRRM manual was subsequently reprinted and used in the two (2) trainings that were held in Bataan on Sept. 27-29 and Tarlac on Nov. 22-24, 2016.

The training exposed science teachers to the following: a) basic concepts on disasters like typhoon, flood, earthquake, tsunami and landslide and the DRRM Act of 2010; b) inquiry-based approach in teaching science; and c) lesson development of selected Grades 7, 8, 9 and 10 topics in the K-12 science curriculum. Experts from PAGASA, PHIVOLCS, MGB and OCD Regional Office, served as resource persons for DRRM topics, while DepEd Regional Supervisor for science talked about inquiry-based approach in teaching science and ensured appropriateness of the content and learning competencies.





Group photo with the Director of Science Education Center of National Taiwan Normal University, Prof. Chun-yen Chang, (second from right, first row) and students from Thailand.

Group photo with the officials and faculty members of National Taichung University of Education.

edge technology advancements and consistent placement at the top in TIMSS.

The 5-day visit, which took place on August 15-19, 2016, covered the following activities:

- Visit to Science Education Center, National Taiwan Normal University (Taipei)
- Visit to Taipei Municipal Zhong-zheng Senior High School (Taipei)
- Travel to Taichung from Taipei
- Visit to National Taichung University of Education and its affiliated elementary school

- Visit to the National Dajia Senior High School (Taichung)

In the said visit, the group was able to observe actual classroom practices, inspect facilities for learning STEM education, study the school curricula, interact with researchers and establish linkages with the following:

1. Chun-Yen Chang Ph.D.,
Director, Science Education Center,
National Taiwan Normal University
2. Wei-Kai Liou, Ph.D.
Science Education Center
National Taiwan Normal University
3. Chao Li-Hua
Director of Academic Affairs
Taipei Municipal Zhong-zheng
Senior High School
4. Sung-Tao Lee, Ph.D.
Director, Science Education Center
National Taichung University of
Education
5. Yeh Tsung Wen
Professor, Department of Science
Application and Dissemination
National Taichung University
Education
6. Principal, National Dajia Senior
High School

SEI ATTENDS BOARD MEETING OF 10TH ASEAN+3 CENTER FOR THE GIFTED IN SCIENCE

As part of DOST-SEI's international collaboration, Dr. Josette T. Biyo attended the 10th ASEAN + 3 Center for the Gifted in Science (ACGS) Board of Directors Meeting held in NonThaburi, Thailand on August 22-25, 2016.

INTERNATIONAL LINKAGES AND CAPABILITIES DEVELOPMENT

ROADMAP TO EXCELLENCE TAKES DELEGATION TO TAIWAN

Eleven (11) science and mathematics trainers of STAR partner universities from Regions 1, 3, 5, NCR, 6 and 10, together with five (5) SEI officials and staff visited schools in Taiwan. The activity aimed to upgrade the capacity of faculty members of partner universities and SEI staff through exposure to global best practices in STEM education, Taiwan is a country noted for its track record of cutting-



The group explored the different facilities at the Science Education Center, National Taiwan Normal University.

Delegates of the 10th ASEAN + 3 Center for the Gifted in Science (ACGS) Board of Directors Meeting.



INFOGRAPHICS FOR LEARNING PRESENTED IN JAPAN EDUCATIONAL CONFERENCE

As part of the Institute's thrust to build and improve the capacity of its staff in establishing collaborations in science education research, a staff of the Science Education Innovation Division of DOST-SEI, presented her research paper entitled, "Effects of Infographics in Student Coding Skills and Conceptual Understanding in Biology" during the 8th Asian Conference on Education held at Kobe, Japan on October 20-23, 2016. Ms. Sacopla recommended further collaboration with neighboring counties to gather ideas for possible projects for innovating science education for teachers and learners.

RESEARCH SPECIALISTS ATTEND HK CONFERENCE

Mr. Rodelio G. de Asis, Senior Science Research Specialist and Ms. Maria Lourdes V. Felicitas, Science Research Specialist II, attended the 2016 Hong Kong International Conference on Education, Psychology and Society (HKICEPS) on December 14-16, 2016. The HKICEPS was a venue for the researchers, professionals, academics and graduate students to present recent studies and latest researches to share for future development in the field



At the registration table with another Filipino presenter.



One of the presenters in the conference.

of education. One recommendation of the attendees was continuous search for variety of international conferences on education to choose from and send participants to, so as to get abreast with the developing trends and innovations in science and mathematics education.

SEI RENEWS PH MEMBERSHIP IN IEA

Upgrading the knowledge and capabilities of SEI officers and staff is a continuous process, essential for them to explore and implement more innovative programs and projects.



Official Photo of Participants in the 57th Annual General Assembly of the IEA.

Ms. Ruby Laña, Chief, Science Education and Innovations Division of SEI, visited a primary school in Norway, that is piloting the use of tablets in their lessons and assignments.



A Mathematics Class in the School.

In line with this, the project provides them with exposure in local and international academic communities, allowing them to imbibe new ideas, learn new trends in science and mathematics education, benchmark with other countries' best practices, become more globally competitive, and ultimately help raise the quality of STEM education in the country.

Towards this end, the Institute in 2016 renewed its membership in the International Association for the Evaluation of Educational Achievement (IEA), an independent, international cooperative of national research institutions and governmental research agencies conducting large-scale comparative studies of educational achievement and other aspects of education. The Philippines was represented by Ms. Ruby D. Laña, Chief, Science Education and Innovations Division of SEI, during the 57th Annual General Assembly of the IEA on October 10-13, 2016 held in Oslo, Norway.

Close to a hundred individuals composed of representatives and observers from member institutions, resource persons and IEA officials attended the meeting. Among the matters discussed were the progress reports regarding the on-going international assessments being conducted by IEA namely, PIRLS 2016, International Civic and Citizenship Study (ICCS) 2016, International Computer and Information Literacy Survey (ICILS). Also discussed were the highlights of the results



A Memorandum of Understanding (MOU) was signed between the DOST-Science Education Institute, represented by its Director, Dr. Josette T. Biyo, and officials of 16 universities on December 15, 2016, a partnership to conduct capacity building activities in science and mathematics education in the regions.

of the 2015 TIMSS, in which it was noted that Asian countries, namely, Singapore, Hong Kong SAR, Korea, Chinese Taipei, and Japan continue to outperform all participating countries in mathematics at the fourth and eighth grades. The full report on 2015 TIMSS is now available online at <http://timss2015.org/timss-2015/>.

On the last day of the meeting, an educational visit was done in a primary school, which is one of the fifteen schools in Norway that is piloting the use of tablets in all lessons and assignments. A co-participant from the Philippines in the meeting was Dr. Nelia Benito from the Department of Education, which is currently preparing for the participation of the Philippines in the 2019 TIMSS.

INSTITUTIONAL EXPANSION PROGRAMS

DOST-SEI EXPANDS NETWORK INSTITUTIONS

Towards the end of the year, SEI added ten (10) universities on top of six (6)

other partners, establishing a STAR network university in almost every region of the country for more trainings and more teachers to be capacitated. (See Table 15)

Table 15: The Ten (10) New Universities added to the STAR Network	
Region	University
CAR	St. Louis University
2	St. Mary's University
4-A	Batangas State University
4-B	Palawan State University
7	Cebu Normal University
8	Leyte Normal University
9	Western Mindanao State University
11	University of Southeastern Philippines
12	University of Southern Mindanao
CARAGA	Caraga State University

PROJECT ARISE GAINS GREATER EXPOSURE

Students, educators and the general public are gaining awareness of Project ARISE, an ecosystem of education, information and communications technology resources and innovations that serves as a support system to the K to 12 and Science, Technology, Engineering, and Mathematics (STEM) education.

ARISE provides a model classroom environment that meets the needs and challenges of the 21st century education in the context of the K-12 Curriculum. It consists of two major facilities:

1. DOST-SEI 21st Century Model Classroom

A classroom equipped with: furniture designed for mobility to promote learner-centered, collaborative and active learning;

Table 16: Participants per region that participated in Project ARISE	
Region	No. of Visitors
1	136
2	3
3	43
4A	851
4B	5
5	47
6	6
7	33
8	6
9	1
10	2
11	0
12	1
13 – CARAGA	9
14 – ARMM	1
15 - CAR	9
16 - NCR	724
17 – Foreign Country	12
Total	1,889

digital and non-digital education technologies, equipment and tools to support the need of teachers and learners; and computer network facility to connect with data and other resources.

2. Open Resource Center

An open learning space that promotes an atmosphere of academic and scientific research and collaboration; provides teachers, learners and researches free access to resources and interactive content; and features SEI innovations, projects, researches and training resources on science and mathematics education

In 2016, a total of 1,889 students, teachers, education superintendents and supervisors, stakeholders, scholars, government organizations and NGOs visited and benchmarked the 21st Century Model Classroom; attended the seminars on 21st century learning environment and education technology; and participated in training on development of inquiry-based science lessons. (See Table 16)

Table 17: Participants per region that participated in Project ARISE	
Type of Organization	Count
Elementary School	104
Secondary School	108
Tertiary	25
Department of Education Division Office	63
Local Government Unit	1
Government Org.	26
Non- Government Org.	7
Stakeholder	10
International Organization	2
Media	3
Total	349

Facility Benchmarking

Table 17 shows the schools and education institutions that conducted benchmarking activity to solicit information and concept idea for setting-up their own 21st Century Model Classroom and Open Learning Space facilities.

Seminars and Trainings

The following seminars and trainings were also conducted as part of the project activity:

- Seminars
 - 21st Century Education and Learning Environment
 - Virtual and Augmented Reality in Teaching and Learning
 - Powerful Tools for Teaching and Learning: Web 2.0 and 4Cs Tools and Resources
 - DOST Courseware in Science and Mathematics for Grades 1-8
 - 3D Modelling and Printing

- Professional Development Training
 - “Development of Inquiry-based Science Lessons for Project Hands-On Teaching and Learning of Science (HOTS)”

Media Feature

The facility was also featured in various media organizations:

- GMA 7 – “AHA!” Educational Show, hosted by Drew Arellano, 18 April 2016
- TV 5 – Aksyon Primetime News, Segment feature by Senior Correspondent Laila Chikadora for Happy News
- University of the Philippines – DZUP 1602 Radio – “Go Teacher Go Program”, hosted by Malu S. Agad & Lita M. Mondigo of UPNISMED”, Sept. 15, 2016
- CNN Philippines – “Leading Women” show hosted by Angel Jacob, December 15, 2016

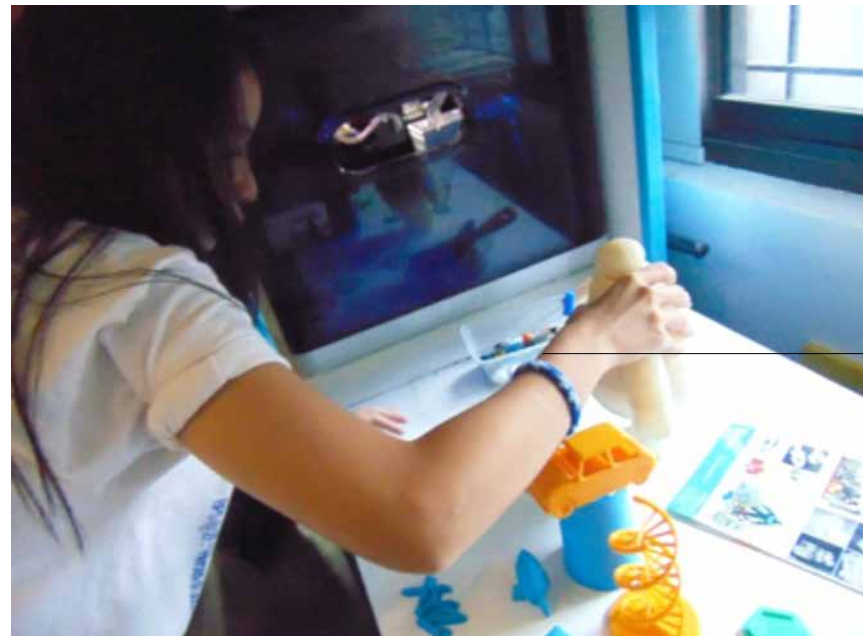


Dr. Josette T. Biyo with fifty-five (55) DepEd Division Superintendents and Assistant Superintendents during their benchmarking activity in July at SEI organized by National Educators Academy of the Philippines (NEAP).



Students from R. Papa High School, Taguig City enjoy the virtual tour under the sea using the Virtual Reality box available at the DOST-SEI 21st Century Model Classroom.

Teachers from Gregorio Del Pilar Elementary School in awe upon trying the Augmented Reality Space 4D+ flashcards from Ireland which can be played and tried at the DOST-SEI 21st Century Model Classroom.



A student from Muntinlupa Business High School, Alabang, Muntinlupa City inspects the prototype models generated from the 3D printer at the DOST-SEI 21st Century Model Classroom where DOST Scholars can print their prototype projects for free.



Primary students from Katrina Solano Institute of Learning, Paranaque City beams as they try the Augmented Reality Animal 4D+ flashcards from Ireland which can be played and tried at the DOST-SEI 21st Century Model Classroom.



A Grade 4 learner from Mapa Prime Academy of Morong, Rizal tries the DOST Courseware MS Windows version during their educational tour at the DOST-SEI 21st Century Model Classroom.

STAKEHOLDERS TESTIMONIALS

“I feel proud that Filipinos were able to develop materials like this. We hope that all school will be given these materials.”

Ruth Anne B. Ramos
Calamba City Science HS,
Calamba City, Laguna

“DOST Courseware mobile application is user friendly application for students”

Melandro Santos
Antonio Villegas MHS,
Tondo, Manila

“The courseware is ubiquitous”
Irma E. San Pedro
Pateros Elementary School

“The Courseware Mobile Application would be very helpful to the teachers in using them for the preparation of lessons”

W. Casteniano
E.M's Elementary School,
Taguig City

“Very Interactive for learners”
Bryan F. Zapatos
Lawa National High School, Calamba City, Laguna

“Teaching would be so much easy. Advantage for both teacher and students”

Ma. Chat Donna V. Ofilas
Ramon Magsaysay High School,
Manila

“Very suited for the types of students that we have”

Marilou D. Cajucom
Ignacio Villamor High School,
Sta. Ana, Manila

“Interactive and it will surely get the focus and attention of the learners”

Cherry B. Rodriguez
Ignacio Villamor High School,
Sta. Ana, Manila

LEARNING INNOVATIONS

DOST COURSEWARE APP AVAILABLE FOR MOBILE LEARNING

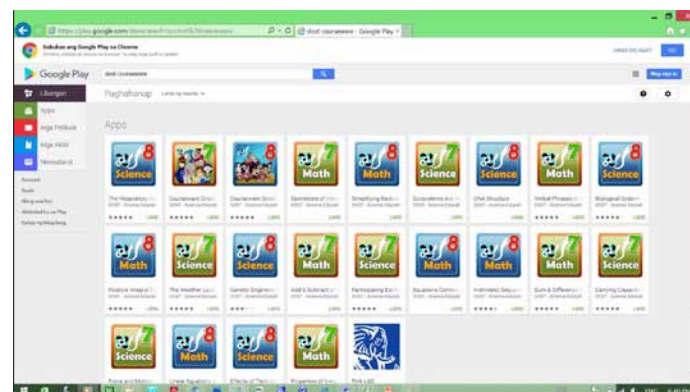
The mobile application of the courseware that features selected science and mathematics modules for Grade 7 and 8 enjoyed wider reception in 2016. Running on Android-powered smart phones, tables and other devices, the modules can be downloaded for free, allowing for wider dissemination of

the courseware, and promotion of mobile technologies for learning.

Twenty modules were uploaded to Google Play in January 2016, comprising five modules each for science and mathematics in Grades 7 and 8.

Throughout the year, all modules were downloaded from 100-500 times, with the module on Arithmetic Sequence reaching more than 500 downloads. The module on effects of Technology on Evolution had the least number of downloads which only had about a hundred at most.

DOST-SEI Director Josette T. Biyo, shows the multi-platform DOST Courseware operational either in Microsoft Windows for PCs or laptops; or in Android-based smartphones and tablets.



The DOST Courseware Android version on Google Play can be downloaded for free through the website or mobile application.



Parents and board members Juanito Antonio and Francesca Chua of Learning Ideas for Enlightenment (LIFE) delightfully tries the DOST Courseware Grade 7 Math Module “Properties of Inequality”.

“EUREKA! SCIENCE ON THE GO” ROLLS OUT LEARNING ACTIVITIES FOR S&M TEACHERS

Converted from an old Mobile Information and Technology Classroom bus in 2015, “EUREKA! Science on the Go” is designed as a mobile science classroom and laboratory facility. It provides hands-on innovative teaching and learning activities to science and mathematics teachers in areas where there are limited or no information and communications technology (ICT) facility and laboratory equipment.

In cooperation with subject education specialists in elementary mathematics from the University of the Philippines National Institute of Science and Mathematics Education Development (UPNISMED), DOST-SEI conducted three on-site trainings entitled “Developing Technology-Enhanced Lessons for Improving Grade 2 Pupils’ Mathematics Skills” at the following DepEd Division Offices:

- DepEd Division of Biñan City, Laguna - 31 May to 02 June 2016;
- DepEd Division of Calamba City, Laguna – 07-09 June 2016;
- DepEd Division of Santa Rosa City, Laguna – 8-10 November 2016.

Twenty (20) teachers from each Division Office, for a total of 60 teachers were trained in integrating interactive courseware for Grade 2 Mathematics teaching and learning.



Training participants from DepEd Division of Biñan City, Laguna.



Training participants from DepEd Division of Calamba City, Laguna.

The CD/DVD Copies of Grades 1-6 Interactive Courseware in Mathematics and Grades 7-8 Interactive Courseware in Science and Mathematics.



**SEI CONTINUES
DISSEMINATION OF DOST
COURSEWARE**

The Interactive Mathematics Courseware for Grades 1-6 and Interactive Science and Mathematics Courseware for Grades 7-8 courseware, developed as tools to help improve the students’ achievement in science and mathematics were replicated in 2016 for dissemination to public elementary and secondary schools.

The Grades 1-6 Interactive Courseware contains a total of 60 modules in Mathematics, disseminated to 1,000 elementary teacher-beneficiaries/schools nationwide.

Meanwhile, the Grade 7 courseware, which contains 132 modules, and the Grade 8 courseware with 117 modules were replicated in December 2016 and scheduled for dissemination in 2017.

**LAST MOBILE IT CLASSROOM
(MITC) BUS DONATED**

The remaining MITC unit, equipped with education technology facilities and interactive instructional/learning materials in science and mathematics as an alternative method of learning and instruction, was donated by DOST-SEI to Partido Development



Administration (PDA), Camarines Sur to sustain its program on IT education. It was formally turned-over to PDA on December 20, 2016 at the PDA Headquarters, Camarines Sur.

The MITC Bus donated by DOST-SEI to Partido Development Administration, Tigaon, Camarines, Sur.

**INCLUSIVE
LEARNING
INITIATIVES**

**TEACHERS LEARN TO
ADAPT LESSON PLANS FOR
INDIGENOUS PUPILS (IP)**

Launched in 2015, the Lesson Plans for Indigenous Pupils project caters to elementary teachers coming from schools where most pupils, if not all, come from indigenous communities. It aims to equip these teachers not only with capabilities in teaching science concepts to IP learners but also encourage the use of suitable materials and ideas that are local, culture-based and familiar to them.

For 2016, the immediate beneficiaries of the project were the IP teachers

and learners in Grades 4-6 in the following identified elementary schools:

- Tarlac (Bamban)
 - San Martin Elementary School
 - Burog Elementary School
- Pampanga (Porac)
 - Villa Maria Integrated School
 - Camias Elementary School Porac
 - Katutubo Village Elementary School

The long-term beneficiaries were learners coming from the Ayta Mag-indi and Ayta Magantsi communities, and the communities themselves.

The project personnel conducted ocular visits/orientation to and focus group discussions with the IP communities in 2015. In 2016, the group started with the validation of the science lessons that were

specifically developed for the IP communities.

Validation of Developed Indigenized Lessons in Science from Kinder to Grade 3. The developed indigenized science lesson plans for Tarlac Division were validated on April 06, 2016 at San Martin Elementary School in Bamban, and those for the Division of Pampanga on April 07, 2016 at Katutubo Elementary School in Porac. The teacher-writers presented the lessons to the evaluators for comments and validation.

School Level Implementation/Field Test. After validation, field tests of the developed indigenized science lesson plans were conducted in the following schedules:

- Tarlac**
- San Martin Elementary School - April 27, 2016
 - Burog Elementary School - April 27, 2016
- Pampanga**
- Katutubo Elementary School - May 11, 2016
 - Camias Resettlement Elementary School - May 12, 2016
 - Villa Maria Elementary School - 13 May 2016

Development of Materials/ Training-workshop on the Indigenization of Science Lessons for Grades 4-6. A training-workshop was conducted on October 25-29, 2016 in San Fernando, Pampanga to indigenize lesson plans in science for Grades 4-6 using the data generated from the FGD conducted in 2015. A total of 28 teachers, school heads, IP representatives/Elders, and DepEd officials and personnel participated in the training workshop, the expected outputs of which were five lessons for Grade 4, four lessons for Grade 5, and four lessons for Grade 6, for a total of 13 indigenized lesson plans.

The validators comment on the indigenized lesson plan the teacher presented.

A teacher presents the indigenized lesson plan they prepared during a previous workshop for validation.



Katutubo Elementary School, Pampanga





Burog Elementary Sschool, Tarlac

Lecture and demonstration of lesson by IP Elder, Junior D. Tolentino.

For the implementation of the indigenized lesson plans from Kinder to Grade 3, monitoring activities were rescheduled in January/February 2017 upon issuance of the final monitoring scheme by DepEd-IPsEO.

BLIND KIDS DO SCIENCE TOO

This three-day orientation/hands-on training focused on providing instructional strategies to adapt and modify science activities using assistive devices for science teachers in elementary and secondary schools handling visually impaired students.

Sixteen (16) elementary and secondary science teachers from different schools in Luzon teaching visually impaired students attended the training together with three visually impaired students, two regular students and their parents.

The training was conducted on October 20-22, 2016 at the National Educator's Association of the Philippines (NEAP) in Marikina City. The first lecture and activity was conducted by Mr. Mario Lucas and Ms. Marie Joyce Lopez of the Resources for the Blind (RBI) with the topic "Practical and Appropriate Ways on Handling Visually Impaired Students". The teacher-participants were divided into two groups wherein members of one group played the role of the blind, while those in the other group were taught how to guide and handle the others by touring the campus and crossing the streets outside NEAP.

On the second and third day, the resource persons conducted demonstration teaching various topics. (See Table 18)

Table 18: Topics Discussed by the Resource Person		
Date	Topic/Lesson	Resource Person
October 21, 2016	Motion	Ms. Laurice Zacarias Kalayaan National High School, Caloocan City
October 21, 2016	Heat Transfer	Ms. Joanne Fel H. Liwag Ramon Magsaysay High School, Sampaloc, Manila
October 21, 2016	Light and Sound Heat and Electricity	Ms. Laurice Zacarias Kalayaan National High School, Caloocan City
October 22, 2016	Integumentary System (Skin)	Mr. Francis Kitz A. Aquino Santiago, Isabela (former teacher of the Philippine National School for the Blind)



SCIENCE FOR SENIOR CITIZENS CONDUCTED

In line with Republic Act No. 9257, otherwise known as the "Expanded Senior Citizens Act of 2003", a two-day activity for senior citizens was held on October 5-6, 2016 at Batangas Country Club, Batangas City. Dubbed as "Science Camp for Lolo and Lola," the activity exposed the elderly to scientific concepts translated into simple activities, which they can connect to their everyday lives. It was conducted in cooperation with the Office of Senior Citizens Affairs (OSCA) of Batangas City.

Fifty (50) senior citizens were introduced to different science topics such as "Inheritance of Traits" for Biology, "Acids and Bases" for Chemistry, "State of Nutrition of Older Persons" and "Lolo and Lola Went to Market" for Nutrition, "Grandpa and Grandma 2.0" for ICT, Robotics and "Benefits of Exercise" and "What to do in case of Emergency" for Health.



Science is for everyone: Activities include robotics; lolo and lola went to market; and acids and bases at home.

SEMINAR PRIORITIZES ASSISTANCE TO PWDS

Fifty (50) employees from DOST-SEI and DOST agencies located in Bicutan, Taguig City underwent a one day Orientation Seminar to promote positive attitude towards Persons with Disabilities (PWDs) and extend to them full quality service.

Ms. Carmen R. Zubiaga, Acting Executive Director of the National Council on Disability Affairs (NCDA), discussed the topic “Disability Perspective and Universal Design”. Also from NCDA, Mr. Rizaldo R. Sanches discussed “Mandates on Disabilities,” while Ms. Virginia Rabino tackled the topic “Practical and Appropriate Ways of Handling PWDs.”

Aside from showing how to handle persons on wheelchairs, there were also lectures and demonstrations for the hearing and visually impaired persons executed by Mr. Mario Lucas and Ms. Joyce Lopez, both from the Resources for the Blind (RBI).

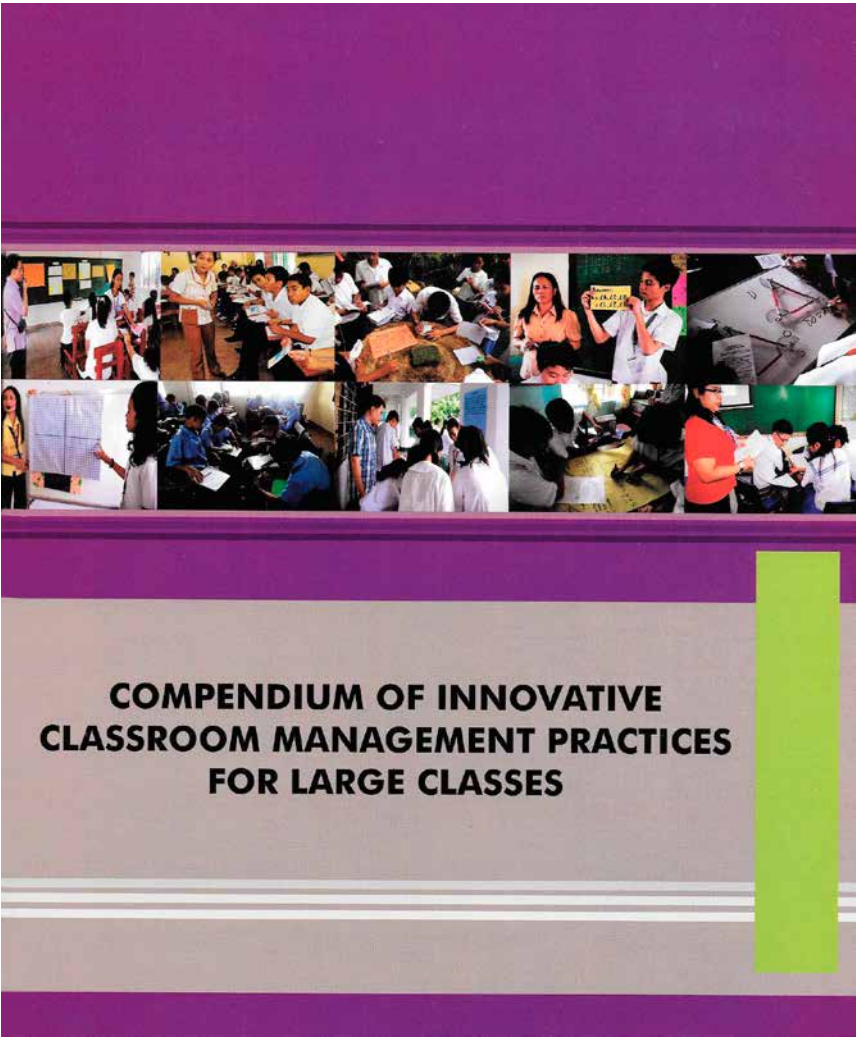
SCHOOLS WITH LARGE CLASSES RECEIVE COPIES OF COMPENDIUM OF INNOVATIVE MANAGEMENT PRACTICES

The compendium of documented innovative practices in managing large classroom environments, designed to improve the quality of teaching and learning in classrooms with more than 50 students, was rewritten to simplify the description of procedures so that interested teachers can follow and apply them in their own settings.

The compendium was the output of the Search for Innovative Practices in Managing Large Classes for Effective Teaching and Learning of Science and Mathematics, and covers management practices that qualified in the 1st and 2nd round of searches held in 2013 and 2014. The rewritten innovations were compiled, published then distributed to schools with large classes and to schools division offices of the Department of Education.



Ms. Virginia Rabino of the National Council on Disability Affairs (NCDA) demonstrates how to lift and assist a person on wheel chair.



Role playing of visually impaired (VI) and sighted persons.



Ms. Ruby D. Laña, Chief, Science Education and Innovations Division, introduces Ms. Carmen R. Zubiaga, Acting Executive Director of NCDA as one of the resource persons.



The participants are divided into two groups, one group with blind-fold plays as the visually impaired (VI) while the sighted group assists the VI in going up and down the stairs.

SEI MONITORS MARKETING AND PROMOTION OF PSHC AS ALTERNATIVE LEARNING INSTITUTION FOR SCIENCE

The Science Education Institute has been tasked to monitor the project entitled “Salinlahi in Transition: Transforming the PSHC into a World Class Science Center.” The goal is to strengthen the operation, marketing and promotion of the Philippine Science Heritage Center to properly perform its function as an alternative S&T learning institution.

Implemented by the National Academy of Science and Technology (NAST) from Year 2014 to 2016, the Salinlahi Project focused on strengthening and expanding the existing activities of the Philippine Science Heritage Center as an alternative learning institution for science. Programs and activities focused on three components, namely: a) Enriching the visitors’ experience; b) Promotion and marketing of the Center; and c) Capacity building for the PSHC staff.

FOUR FOUNDATIONS GAIN SCIENCE CERTIFICATION

As part of the DOST inter-Agency Monitoring Group, the Science Education Institute evaluated and endorsed four (4) Foundations for DOST Certification as Science Foundation. These are:

- INFINIT-O Group Foundation Inc. 24th Floor Pacific Star Building, Sen. Gil Puyat corner Makati Avenue, Makati, 1200 Metro Manila
- Philweb Foundation Inc. 20th Floor, 2258 Alphaland Southgate Tower, Roces Avenue corner EDSA, Makati, Metro Manila
- KC Philippines Foundation, Inc. Gen. Luna corner Sta. Potenciana Sts., Intramuros, 1002 Manila
- Philippine Foundation for Science and Technology, Inc. (PFST) Philippine Science Centrum Riverbanks Center, 84 A. Bonifacio Drive, Barangka, Marikina City

EXIT SURVEY: DOST-SEI SCHOLAR-GRADUATES (UNDERGRADUATE LEVEL)

A total of 158 graduating DOST-SEI scholars in the undergraduate level participated in an Exit Survey administered by the Institute from October 2014 to June 2015. The objectives of the study are:

1. To get feedback from the scholars in the undergraduate level regarding the various scholarship services provided (e.g., dissemination of scholarship information; support to scholars organization/activities; assistance extended by scholarship staff; addressing scholars problems; and scholarship benefits);
2. To describe how the scholars appreciate the relevance of the scholarship programs to their lives and communities; and
3. To provide baseline information as vital inputs in developing strategies and intervention programs relevant to the implementation and management of the scholarship programs.

The survey covered 26 DOST network institutions and accredited universities in Regions I, VII, X, XI, and NCR.

Highlights:

Majority (134 or 84.8%) of the scholar-respondents are under the RA 7687 scholarship program, only 24 or 15.2% are under the Merit Program. The respondents are dominated by male (101 or 63.9%) scholars, with only 57 or 36.1% female respondents. Most of the scholars come from Region 7 (69 or 43.7%) and NCR (36 or 22.8%). (See Figures 4, 5, 6)

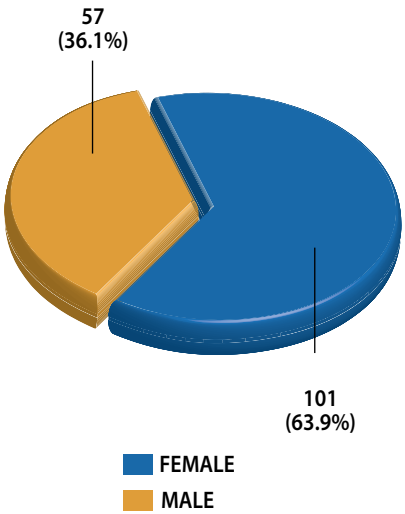


FIGURE 4: Distribution of DOST-SEI Scholars by Sex

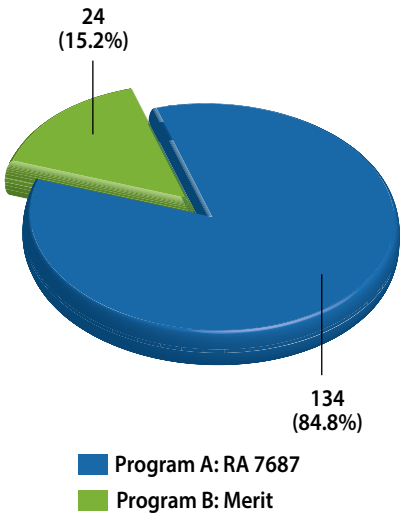


FIGURE 5: Distribution of DOST-SEI Scholars by Type of Scholarship Program

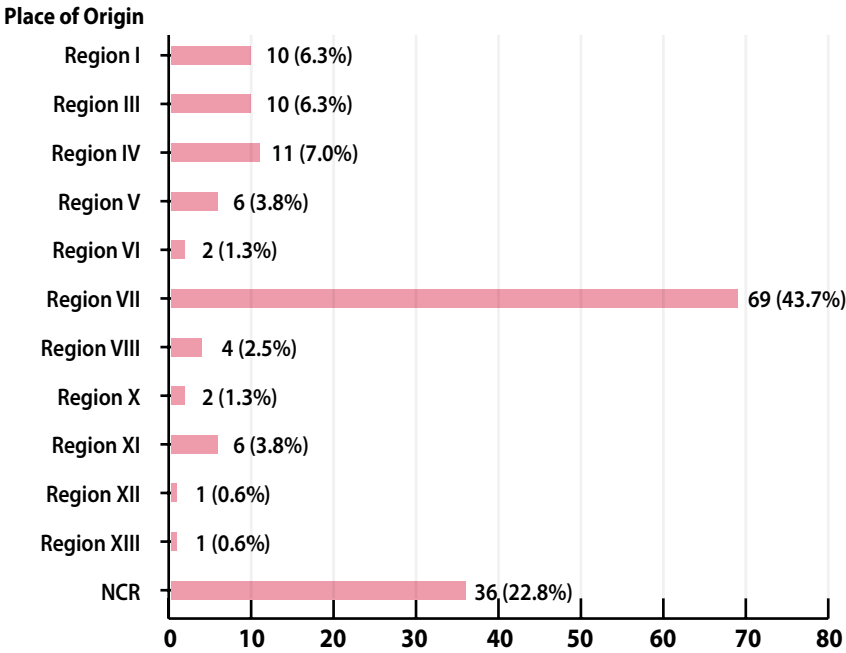


FIGURE 6: Distribution of DOST-SEI Scholars by Place of Origin

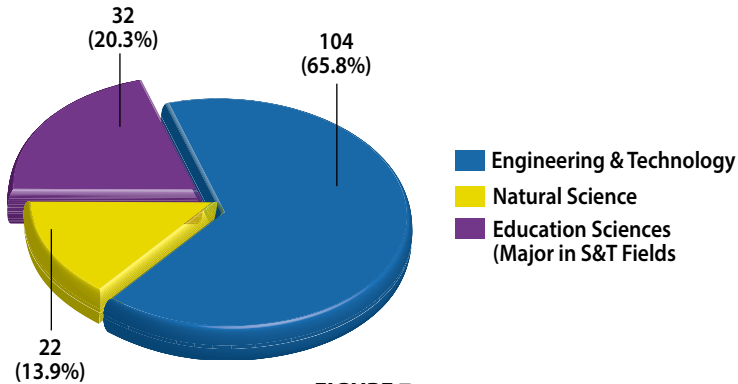


FIGURE 7: Distribution of DOST-SEI Scholars with S&T Courses by Major Field Group

Engineering and Technology courses are the leading S&T fields of study among 104 or 65.8% of the scholars. Only 32 or 20.3% and 22 or 13.9% are in the fields of Education Sciences (major in S&T fields) and in Natural Sciences (e.g., BSE-Math, BS Applied Physics Information Technology, Biology/Chemistry/Computer Science/Statistics, and Food Technology), respectively. (See Figure 7)

Engineering is the most preferred field of study among the RA 7687 (91 or 67.9%) and Merit (13 or 54.2%) scholars. There are also 30 or 17.1% scholars in the fields of Physics, Chemistry and Biology, of which 24 or 80.0% scholars are taking up Physics courses. (See Table 19)

TABLE 19: Distribution of Scholars by Field of Study and by Type of Scholarship Program							
Program	COURSE/FIELD OF STUDY						Total
	Engineering	Physics/Chem/ Bio	Geology	Math/ Statistics	Computer Science	Food Tech	
RA 7687 Program	91 (67.9%)	23 (17.2%)	10 (7.5%)	6 (4.5%)	3 (2.2%)	1 (0.7%)	134 (100.0%)
Merit Program	13 (54.2%)	7 (29.2%)	0	3 (12.5%)	1 (4.1%)	0	24 (100.0%)
Total	104 (65.8%)	30 (19.0%)	10 (6.3%)	9 (5.7%)	4 (2.6%)	1 (0.6%)	158 (100.0%)

Majority (75 or 72.1%) in the Engineering courses are male. The same proportion of male (15 or 50.0%) and female (15 or 50.0%) scholar-respondents are noted in the fields of Physics, Chemistry and Biology. Those who are in the fields of Mathematics and Statistics, majority (7 or 77.8%) are female. (See Table 20)

Twenty-six or 16.0% of the scholars are candidates for various awards during graduation. Among the awardees, 16 or 61.5% are males, majority (20 or 76.9%) of which are RA 7687 scholars. Nine (9) or 34.6% scholars are Magna Cum Laude awardees, also nine (9) or 34.6% are Cum Laude awardees. (See Table 21)

TABLE 20: Distribution of Scholar-Respondents by Fields of Study and by Sex					
Field of Study	Male		Female		Total
	No.	%	No.	%	%
Engineering & Technology	75	72.1	29	27.9	104 (65.8)
Physics/Chemistry/Biology	15	50.0	15	50.0	30 (19.0)
Geology	5	50.0	5	50.0	10 (6.3)
Mathematics/Statistics	2	22.2	7	77.8	9 (5.7)
Computer Science	4	100.00	-	-	4 (2.6)
Food Technology	-	-	1	100.00	1 (0.6)
TOTAL	101	63.9	57	36.1	158 (100.0)

TABLE 21: Distribution of DOST-SEI Scholars by Awards Received by Type of Scholarship Program and by Sex																
Program	Magna Cum Laude		Cum Laude		Presidential Award		Deans List Award		Honorable Mention Award		Leadership Award		Loyalty Award		Total	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
RA 7687 (n=20)	5	1	1	5	1	1	-	1	1	-	2	-	2	-	12	8
Merit (n=6)	3	-	1	2	-	-	-	-	-	-	-	-	-	-	4	2
Total	8	1	2	7	1	1	-	1	1	-	2	-	2	-	16	10

TABLE 22: Distribution of Scholars by Level of Importance of Scholarship to the Completion of Scholars’ Degree and by Type of Scholarship Program				
Level of Importance	RA 7687 Program		MERIT Program	
	No.	%	No.	%
Very Important	127	94.8	13	54.1
Important	4	3.0	9	37.5
Not Important at All	1	0.7	1	4.2
No Response	2	1.5	1	4.2
Total	134	100.00	24	100.00

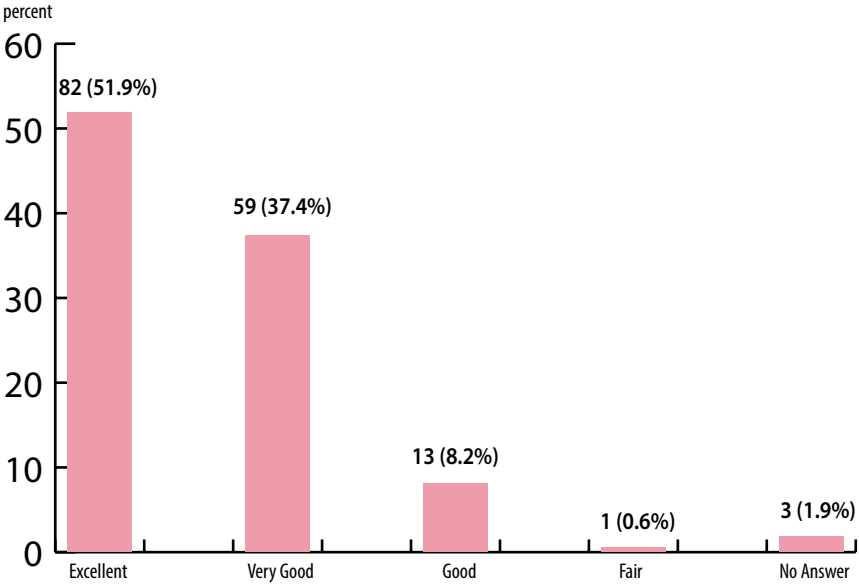
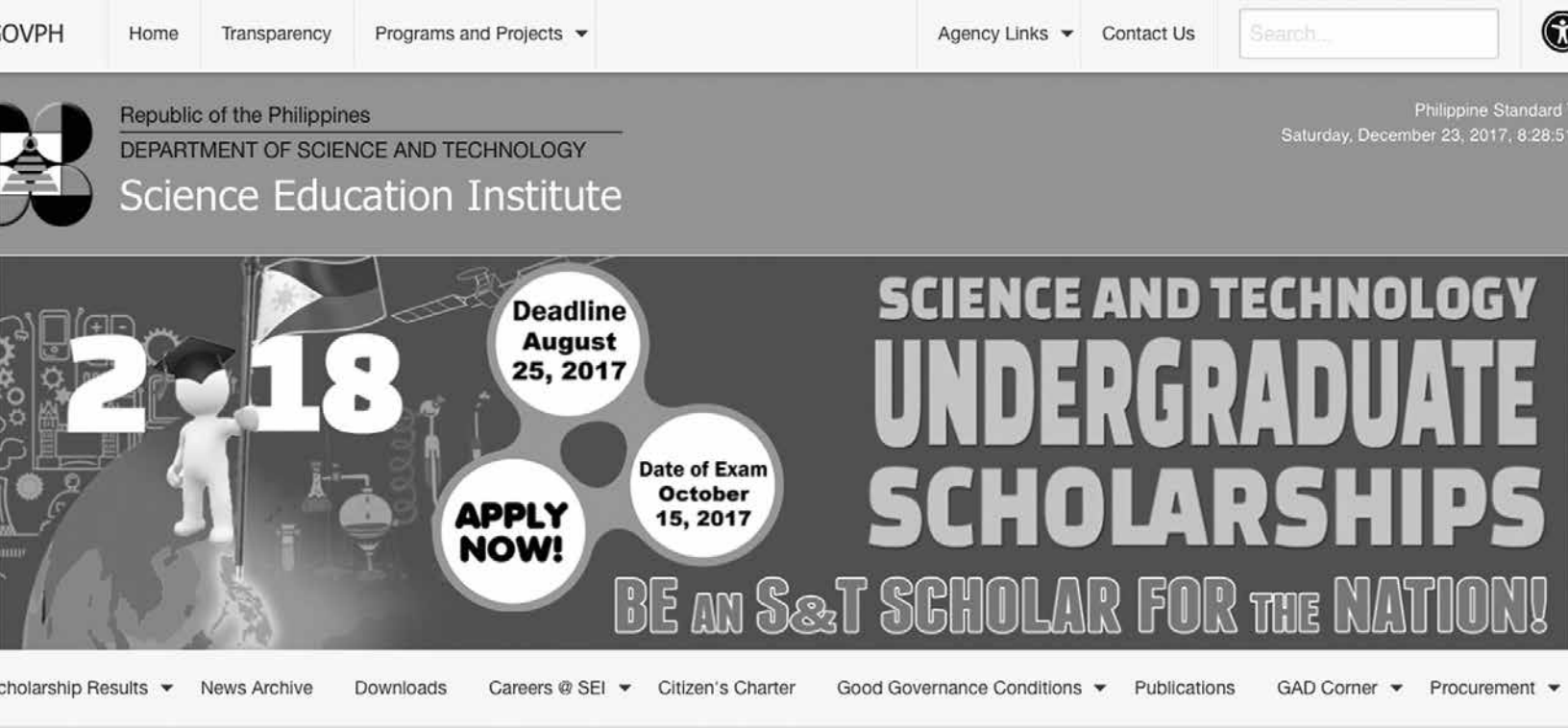


FIGURE 8:
Distribution of Scholars by Overall-Rating of the Scholarship Program and by Type of Scholarship Program

With regard to the importance of the scholarship program to the completion of the scholars’ degree, a Very Much Important (VMI) rating was given by the majority (140 or 88.6%) of the scholar-respondents. Large proportion of the RA 7687 scholars (127 or 94.8%) rated the same relative to the importance of the scholarship program in the completion of their degrees, with only 13 or 54.1% among the Merit scholars. (See Table 22)

For the over-all rating of the scholarship program, an Excellent was given by the majority (82 or 51.9%) of the scholar-respondents. (See Figure 8)



Rizal Nat'l Sci HS retains title as CanSat champions

04 December 2017



TWO IN A ROW. Rizal National Science High School successfully defended their title in this year's Can Satellite Competition, held on 28-29 November in Los Baños, Laguna. The team composed of Josh Rael Jorquia, Matthew Lemuel Rey, and Maria Ena Rosales, and their coach, Marion Sta. Catalina, received their award from the judges composed of Dr. Rogel Mari Sese, Robert Badrin, and Engr. Percival Magpantay.

Rizal National Science High School (RNSHS) proved they are the team to beat when it comes to designing and analyzing data from can satellites. The group, which bagged the top spot in last year's Can Satellite (CanSat) competition, won



4

MIS UNIT

S&T EDUCATION LINKAGES CONTINUES TO IMPROVE

In 2016, DOST-SEI enhanced its network infrastructure to provide faster and more reliable internet connection through Local Area Network (LAN) and Wireless Network. The Institute availed the 24Mbps internet connectivity provided by Radius Telecoms Inc. Network bandwidth utilization was continuously monitored on a daily basis with Intranet, Webmail and shared storage services, and other local information systems running in the network.

Furthermore, wireless access points were provided to address the increasing number of Wi-Fi capable devices within the Institute. Server unit, server rack, UPS, video units and software were purchased to enhance the connectivity of various network and provision of storage devices and additional firewall for SEI security. Other peripherals and devices were acquired including, UPS, cabinets, and labellers for the improvement of service delivery.

The contents of the Institute's website, www.sei.dost.gov.ph, were regularly updated in accordance with the Transparency Seal initiative of the Department of Budget and Management (DBM). A total of 17 news articles were posted throughout the year, including the list of Junior Level Science Scholarship (JLSS) qualifiers which was posted last 25 December 2016. Likewise, a total of 19,070 scholarship documents were digitized to facilitate the management, archiving and retrieval of records of scholars.

CREATING COMMUNICATIONS AND INFORMATION LINKS

As part of the MISU core tasks, the unit met its target in Preventive Maintenance of computers in the SEI network in compliance with ISO requirements. Technical support for the IT network users of the Institute was continuously provided. In adherence to the Administrative Order of Malacañang mandating government agencies to use the Government-Wide E-mail (Govmail) System, a two-day Orientation was conducted last August 23-24, 2016 to inform SEI employees and staff of the advantages of using this platform. The GovMail platform seeks to modernize government processes to promote transparency and improve the delivery of goods and services to the public.

INFORMATION SYSTEM DEVELOPED TO MANAGE DIGITIZED SCHOLARSHIP DOCUMENTS

The MIS unit developed an information system to manage the more than 19,000 digitized documents comprising over 31,500 pages. To reinforce the system, 16 terabytes of storage was also added. Table 23 shows the distribution of documents that were scanned.



MISU personnel introduce GovMail to SEI employees during the two-day Orientation.

TABLE 23: Distribution of Digitized Scholarship Documents		
Document type	Documents	Pages
Contract	1,562	3,778
Reply Slip	761	800
Registration Form	620	1,061
Birth Certificate	2,229	2,845
Notice of Award	476	484
Endorsement Letter	257	261
Landbank	344	377
Additional Undertaking	322	344
Clearance for travel abroad	242	319
Report of Grades	538	904
Information Sheet	2,230	5,169
Examination Registration Form	1,086	2,184
Certification	2,938	3,297
Electric Bill	834	2,399
Affidavit	250	268
Test Permit	26	27
Cedula	26	377
Others	4,329	6,642
TOTAL	19,070	31,536

Search

dar

Show 10 entries

Search:

scholarid	spas	last_name	first_name	middle_name	suffisname	yr_award	program	program
93	U-1961-01-88071	DARIO	ELMO			1961	MERIT	<input type="button" value="VIEW"/>
545	U-1967-16-80921	DARIO	MA, ALEXIS	P.		1967	MERIT	<input type="button" value="VIEW"/>
897	U-1970-00-96597	DARANCIANG	CYNTHIA	B.		1970	MERIT	<input type="button" value="VIEW"/>
1071	U-1971-00-61681	POLIDARIO	BENJAMIN	A.	JR.	1971	MERIT	<input type="button" value="VIEW"/>
2045	U-1978-08-10846	MAGDARAOG	RACHELE			1978	MERIT	<input type="button" value="VIEW"/>
2198	U-1979-08-26388	BERNARDO	DAR	N.		1979	MERIT	<input type="button" value="VIEW"/>
2350	U-1979-00-	MATA	DARYL	B.		1979	MERIT	<input type="button" value="VIEW"/>

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PROFILE

SPAS ID: U-1964-14-97299

First Name: RAUL

Middle Name: C.

Last Name: OBACH

Suffix Name:

Year Award: 1964

Program: MERIT

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24233	<input checked="" type="checkbox"/>	Others	test	2017-03-10 07:55:34	0000-00-00 00:00:00	0000-00-00 00:00:00	U-1964-14-97299_0_3.pdf	<input type="button" value="VIEW"/>
20493	<input checked="" type="checkbox"/>	Birth Certificate	awawodwa	2017-01-16 07:56:00	0000-00-00 00:00:00	0000-00-00 00:00:00	U-1964-14-97299_4_3.pdf	<input type="button" value="Verify Document"/> <input type="button" value="Validate Document"/> <input type="button" value="Overwrite Document"/> <input type="button" value="Delete Document"/> <input type="button" value="Check Document"/>
20491	<input checked="" type="checkbox"/>	Others	awdawd	2017-01-16 07:38:40	2017-03-10 06:46:48	2017-03-10 07:07:09	U-1964-14-97299_5_1.pdf	

Profile page of the system.

Upload a file

SPAS ID: U-1964-14-97299

TYPE: Select Document Type

DESCRIPTION:

CLOSE

Year Award: MERIT

#	Check	Type	Description	Upload	Verify	Validate	Filename	Actions
24233	<input checked="" type="checkbox"/>	Others	test	2017-03-10 07:55:34	0000-00-00 00:00:00	0000-00-00 00:00:00	U-1964-14-97299_0_3.pdf	<input type="button" value="VIEW"/>
20493	<input checked="" type="checkbox"/>	Birth Certificate	awawodwa	2017-01-16 07:56:00	0000-00-00 00:00:00	0000-00-00 00:00:00	U-1964-14-97299_4_3.pdf	<input type="button" value="VIEW"/>

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gender & development initiatives

Gender and Development initiatives seek to create an organizational environment for implementing gender-responsive policies, programs and projects, particularly those that affect women’s performance. These activities are in line with Executive Order 273, otherwise known as the Magna Carta for Women; Section 20 of the General Appropriations Act (GAA); and SEI’s mandate to develop the country’s S&T human resources.

2016 NATIONAL WOMEN’S MONTH CELEBRATION (NATIONAL AND DOST-WIDE)

The Women’s Month Celebration’s theme resonated the call for gender-balance in leadership and decision-making positions both in public and private sectors; inclusion of women’s concerns in leadership platforms and the government’s development agenda; and capacitating and preparing women and girls to reach their ambitions.

There were 13 female and three male employees of SEI who participated in this event on March 16, 2016 at Luneta Park in Manila, where they filled out their “Agenda ni Juana” ballot, choosing five gender concerns that would be submitted to the then-incoming administration.

SEI employees likewise actively participated in the DOST wide celebration on March 31, 2016 where a whole day activity was organized. It consisted of parade, Zumba exercise, games and a Forum on “Women in Leadership”.



SEI employees imprint their thumbmark in the “I am counted”.



SEI Director Dr. Josette Biyo awarding the Certificate of Appreciation to PCW Chairperson Remy Rikken.

GENDER SENSITIVITY ORIENTATION (GSO) FOR SEI EMPLOYEES

The GSO was held in two batches, on June 22 and 23, 2016 at the WGP Hall. The activity was meant to increase the awareness and develop gender sensitivity of SEI staff. Some of the topics discussed were Basic Gender Concepts, Institution that Promote Gender Bias, Sexual Division of Labor, Manifestation of Gender Bias, and Gender, Power and Development. The Chairman of the Philippine Commission on Women, Remy Rikken served as resource person.

BEYOND BACCALAUREATE: STEPPING UP TO GRADUATE STUDIES

This activity was held in conjunction with the National Science and Technology Week on July 26, 2016. Around 200 graduating male and female students of TUP, PUP, PNU and MAPUA taking up engineering and science courses (both S&T scholars and not) participated in a forum. Successful DOST-SEI scholar-graduates talked about their experiences both as scholars and professionals to encourage students to take up graduate studies. The activity aimed to provide equal educational opportunities for male and female students. The guest speakers were Dr. Gay Jane Perez, Professor at the Institute of Environmental Science and Meteorology, UP Diliman; Dr. Michael Lochinvar S. Abundo, Director of Ocean Pixel Pte.Ltd Singapore; Dr. Jumella F. Sarmiento, Director, Office of Admission and Aid, Ateneo de Manila University; and Mark John Paul Capistrano, Officer-in-Charge of Management and Information System Unit of SEI-DOST.



Dr. Michael Abundo receiving his certificate after delivering inspirational talk to students at the forum “Beyond Baccalaureate: Stepping Up to Graduate Studies”.



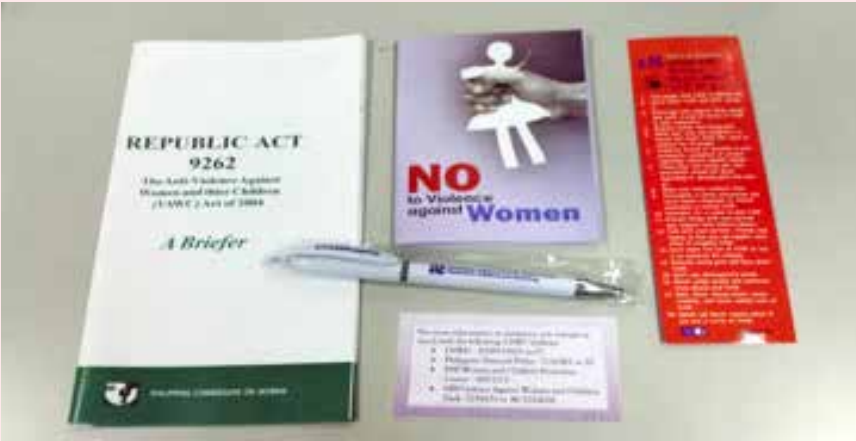
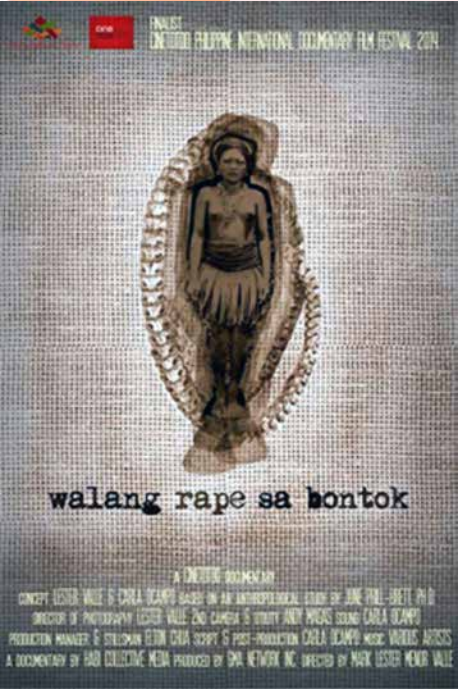
Director Mark Valle responding to questions after the film showing.

FILM SHOWING OF THE DOCUMENTARY “WALANG RAPE SA BONTOK”

In celebration of the 18-Day campaign to end Violence Against Women (VAW) which is observed annually from November 25 to December 12 in order to raise awareness among all stakeholders that VAW is a public issue of national concern, SEI conducted a film showing entitled “Walang Rape sa Bontok”. This film which is highly recommended by the Philippine Commission on Women (PCW) talked about culture, history and gender issue on rape. The event was graced by film director Mark Valle, who expounded on some scenes in the documentary and responded to queries of the viewers composed of SEI employees as well as other DOST agencies. This was held on December 5, 2016 at DOST-SEI.



DOST-SEI employees attending the film showing on “Walang Rape Sa Bontok”.



GENDER-RELATED IEC MATERIALS PRODUCED AND DISTRIBUTED

The IEC materials consist of flyers and brochures containing relevant information about gender that will be of help to our clients- either SEI scholars or teachers. These materials are contained in a small bag and given out during trainings, or scholarship orientation.

GAD IN THE SEI WEBSITE

In the spirit of transparency and accountability in the government service, a GAD corner has been set up in the SEI website. The GAD corner contains SEI’s GAD Framework for 2017-2020, the GAD Focal point system members as well as GAD-related activities.

COLLECTION OF SEX-DISAGGREGATED DATA

Expected to be of great use in the future, SEI continued to collect SDD on employees (organization-focused) as well as on S&T undergraduate and graduate scholars, elementary and high school students, and STEM teachers. Information collected will serve as input for the establishment of a GAD database knowledge management system that would respond to the need for GAD relevant statistics in S&T education. Likewise, data will serve as basis for performance-based gender responsive planning.

DEVELOPMENT OF BREASTFEEDING AREA

In recognition of the importance of breastfeeding for babies until the age of two, a lactation room was designated and provided with facilities to encourage lactating SEI employees to continue breastfeeding even after their maternity leave. Basic facilities included in the area are a couch, refrigerator, sink, and water dispenser where lactating employees are able to express and store their milk.

TABLE 24: S&T Capacity Building Activities (LOCAL AND INTERNATIONAL TRAININGS/SEMINARS/FORUM)			
Title of Training/ Seminars/ Forum	Participants	Venue	Date
GAD Focal Point Assembly	Joana Teresa Y. Medina Maria Viktoria M. Melgo	Subic Bay Venezia Hotel	December 7-9, 2016
Gender Summit 9	Luz S. Rimorin Liezl M. De Lara	Brussels, Belgium	November 8-9, 2016
Revalidation meeting on the use of enhanced GMEF	Cynthia T. Gayya Maria Viktoria M. Melgo	DOST Executive Lounge	October 19, 2016
APEC Women in STEM	Cynthia T. Gayya	Lima, Peru	October 4, 2016
Policy Forum on Gender Parity in S&T	Cynthia T. Gayya Maria Viktoria M. Melgo	Hotel Jen, Manila	November 8, 2016
DOST Core Group of Trainers’ Workshop	Jobelle P. Gayas Maria Viktoria M. Melgo	Los Baños, Laguna	August 10-12, 2016
Science Legislative Forum on Folic Acid	Cynthia T. Gayya Jobelle P. Gayas Maria Viktoria M. Melgo	Hotel Jen, Manila	June 28, 2016

S&T capacity building activities

Scholars Under SEI Staff Development Program

Name of Scholars	Course	Status
Ma. Teresa R. Castillo	Master in Public Administration	Graduated last 12/10/2015
April S. Dumayag	Master of Arts in Education (MAEd) major in Biology Education	On-going (Thesis Writing)
Mark Ivan C. Roblas	Master of Development Communication	On-going
Randolf S. Sasota	Doctor of Philosophy in Education (Research and Evaluation)	On-going
Ma. Cecilia M. Sacopla	Master of Arts in Education major in Biology Education	Completed last July 2016/ Graduation March on June 2017
Ruby D. Laña	Doctor of Philosophy in Education (Research and Evaluation)	On-going

List of Employees Who Attended Conventions/Seminars/Trainings for the Year 2016

Name/s	Title of Training/ Seminars/ Workshops	Location/ Venue	Date
Racquel M. Tolentino Mary Ann A. Manila	Training on The Philippine Budgeting System	Hotel Kimberly, Malate, Manila	February 03-05, 2016
Josette T. Biyo Luz S. Rimorin Peter Gerry P. Gavina Juan Antonio R. Tuazon Liezl M. De Lara	Strategic Leadership and Innovation: Executive Leadership Program for the Department of Science and Technology	Queensland University of Technology Brisbane, Australia	February 15-26, 2016
Ruben P. Salac, Jr. John Christopher R. Vistan	Internal Control System for Property and Supply Management (Appraisal & Disposal)	Hotel Kimberly, Malate, Manila	March 02-04, 2016
Jovito C. Ortiz, Jr. Marjorie V. Hernandez Gladie Mhielaine M. Salvador Kristine Lean V. Cura Kei P. Beltran	Basic Accounting and Internal Control for Non-Accountants	Hotel Kimberly, Malate, Manila	March 09-11, 2016
Racquel M. Tolentino Josefina S. Sta. Maria Susan A. Dela Peña Philip J. Bue	38th Annual National Convention with the theme “Building Global Partnerships Through Knowledge Sharing”	Ibalong Centrum for Recreation, Legazpi City	April 27-30, 2016
Gaius Karl G. Noble	Adobe After Effects CC & Cs6: Beginner to Intermediate	Philippine Center for Creative Imaging (PCCI), 2247 Don Chino Roces Avenue, Makati City	May 20-22, 2016
Luz S. Rimorin Joana Teresa Y. Medina	HR Symposium with the theme “Managing Transitions through Strategic Human Resource and Organization Development”	Waterfront Hotel, Lahug, Cebu City	May 23-25, 2016
Mark John Paul R. Capistrano	Effective Supervisory	Metro Centre Hotel, Tagbilaran City, Bohol	July 12-15, 2016

List of Employees Who Attended Conventions/Seminars/Trainings for the Year 2016

Name/s		Title of Training/ Seminars/ Workshops	Location/ Venue	Date
Beleno, Regina C. Bue, Philip J. Castillo, Ma. Teresa R. De Asis, Rodelio G. De Vera, Jhan Jhan P. Demoni, Ma. Daisy A. Fernandez, Josefina A. Gavina, Peter Gerry P. Gayas, Jobelle P. Gorgonio, Anita E. Ilaw, Ma. Cristina Mae S.	Laña, Ruby D. Miniao, Jemmaly C. Olarte, Amparo F. Palomo, Mary Angelica D.C. Rebuta, Vergel P. Rivera-Gasis, Alona Sales, Sheryll Lee R. Sta. Maria, Josefina S. Tulalian, Celsa P. Tolentino, Racquel M.	Effective Technical Writing and Editing Course	W.G. Padolina Conference Room, Science Heritage Bldg., DOST Cmpd., Gen. Santos Ave., Bicutan, Taguig City	August 04-06, 2016
Ma. Cristina Mae S. Ilaw Marren Joy J. Belgado		Organizational Communication	La Carmela de Boracay, Malay, Aklan	September 6-9, 2016
Marren Joy J. Belgado Philip J. Bue Edelmira B. Bustmante Mark John Paul R. Capistrano Ma. Teresa R. Castillo Susan A. Dela Peña Liezl M. De Lara Susana F. Esquivel Josephine S. Feliciano Ma. Lourdes V. Felicitas Jobelle P. Gayas Cynthia T. Gayya Anita E. Gorgonio Ma. Cristina Mae S. Ilaw Ruby D. Laña Joana Teresa Y. Medina Jemmaly C. Miniao Amparo F. Olarte Mary Angelica DC Palomo Vergel P. Rebuta Luz S. Rimorin Ma. Cecilia M. Sacopla Joan G. Salise Imelda S. Sario Ma. Grace B. Sasota Randolf S. Sasota Josefina S. Sta. Maria Geraldine L. Subida Racquel M. Tolentino Juan Antonio R. Tuazon Gilbert S. Ambac Marjorie R. Ariola Regina C. Beleno	Kei P. Beltran Casylyn M. Bilale Ralfy P. Bulacac Daniece Roy D. Cabrales James Carlo N. Cerda Kristine Lean V. Cura Christopher L. De Leon Julie Anne G. Floralde Marjorie V. Hernandez Abigail B. Jacinto Lew Jorden R. Julve Mary Ann A. Manila Norlyn A. Martinez Marco D. Melgar Janette C. Namocatcat Ma. Nerissa M. Nicolas Gaius Karl G. Noble Jovito C. Ortiz, Jr. Donalee M. Paez Alona Rivera-Gasis Ruben P. Salac, Jr. Levita M. Tarnate Sharamae M. Torres Dante T. Tulalian Philip S. Tumbali Karen Louise M. Villas Belmor D. Villamor John Christopher R. Vistan Maria Angelica C. Vistan William P. Alamag Clyde Guerrero Helen Villanueva	Reorientation on the Implementation of ISO 9001:2008 Standard	W.G. Padolina Conference Room, Science Heritage Bldg., DOST Cmpd., Gen. Santos Ave., Bicutan, Taguig City	September 20, 2016

List of Employees Who Attended Conventions/Seminars/Trainings for the Year 2016

Name/s		Title of Training/ Seminars/ Workshops	Location/ Venue	Date
Alicia L. Asuncion Marren Joy J. Belgado Edelmira B. Bustamante Ma. Teresa R. Castillo Rodelio G. De Asis Susana F. Esquivel Josephine S. Feliciano Anita E. Gorgonio Ma. Cristina Mae S. Ilaw Charilyn Joy M. Layus Joana Teresa Y. Medina Amparo F. Olarte Ma. Grace B. Sasota Josefina S. Sta. Maria Geraldine L. Subida Sheslee F. Subida William P. Alamag Gilbert S. Ambac Marjorie R. Ariola Kane Christian M. Aquino Kei P. Beltran	Casylyn M. Bilale Ralfy P. Bulaclac Kristine Lean V. Cura Christopher L. De Leon Marjorie V. Hernandez Mary Ann A. Manila Norlyn A. Martinez Marco D. Melgar Ma. Nerissa M. Nicolas Jovito C. Ortiz, Jr. Donalee M. Paez Jose Naxiel V. Resolis Alona Rivera-Gasis Corazon A. Salacup Gladie Mhielaine M. Salvador Levita M. Tarnate Celsa P. Tulalian Dante T. Tulalian Philip S. Tumbali Belmor D. Villamor John Christopher R. Vistan	Orientation on Business Continuity and Disaster Recovery Planning	W.G. Padolina Conference Room, Science Heritage Bldg., DOST Cmpd., Gen. Santos Ave., Bicutan, Taguig City	September 20, 2016
Geraldine L. Subida	Randolf S. Sasota	Developing Effective Work Teams	Harbor Lights Hotel, Cagayan de Oro City	October 4-7, 2016
Ralfy P. Bulaclac	Philip S. Tumbali	Government Procurement Reform Act (RA 9184) an its Revised IRR and Updates	Hotel Kimberly, #770 Pedro Gil St., Malate, Manila	July 27-29, 2016
Donalee M. Paez				August 24-26, 2016
Maria Elena C. Agbuis Philip J. Bue Edelmira B. Bustamante Ma. Teresa R. Castillo Rodelio G. De Asis Susan A. Dela Peña Ma. Daisy A. Demoni Susana F. Esquivel Ma. Lourdes V. Felicitas Josefina A. Fernandez Peter Gerry P. Gavina Jobelle P. Gayas Cynthia T. Gayya Anita E. Gorgonio Ruby D. Laña Joana Teresa Y. Medina Jei G. Nolido Amparo F. Olarte Mary Angelica DC Palomo Vergel P. Rebuta Imelda S. Sario Ma. Grace B. Sasota Randolf S. Sasota Josefina S. Sta. Maria Sheslee F. Subida Racquel M. Tolentino Gilbert S. Ambac Marjorie R. Ariola Kane Christian M. Aquino Regina C. Beleno Kei P. Beltran Casylyn M. Bilale Ralfy P. Bulaclac	James Carlo N. Cerda Kristine Lean V. Cura Nona L. Docor Julie Anne G. Floralde Gregorio B. Florendo Ma. Rochelle P. Garcia Clyde Guerrero Carizza V. Guevarra Marjorie V. Hernandez Abigail B. Jacinto Joel E. Lomugdang Mary Ann A. Manila Norlyn A. Martinez Maria Viktoria Melgo Janette C. Namocatcat Roberto O. Nojadera Rachelle J. Ojales Jovito C. Ortiz, Jr. Donalee M. Paez Jose Naxiel V. Resolis Ruben P. Salac, Jr. Corazon A. Salacup Gladie Mhielaine M. Salvador Levita M. Tarnate Sharamae M. Torres Celsa P. Tulalian Dante T. Tulalian Philip S. Tumbali Karen Louise M. Villas Belmor D. Villamor Christopher L. De Leon John Christopher R. Vistan	Training on SS	W.G. Padolina Conference Room, Science Heritage Bldg., DOST Cmpd., Gen. Santos Ave., Bicutan, Taguig City	November 07, 2016

List of Employees Who Attended Conventions/Seminars/Trainings for the Year 2016

Name/s	Title of Training/ Seminars/ Workshops	Location/ Venue	Date
Jhan Jhan P. De Vera Charilyn Joy M. Layus Daniece Roy D. Cabrales Ma. Nerissa M. Nicolas	MySQL for Database Administrator	Unit 409, Peninsula Court Bldg., Paseo de Roxas Cor. Makati Avenue, Makati City	November 7-11, 2016
Jhan Jhan P. De Vera Charilyn Joy M. Layus Daniece Roy D. Cabrales Ma. Nerissa M. Nicolas	Unix/Linux System Administration	MAPUA IT Center, Makati City	November 14-18, 2016
Mark Ivan C. Roblas	Training the Trainer	Palmas del Mar, Bacolod City	November 8-11, 2016
Ma. Teresa R. Castillo	18th Moral Recovery Program(MRP) National Convention/Workshop	Sampaguita Gardens Resort and Hotel, 506 Rizal St., Poblacion, New Washington, Aklan	November 8-11, 2016
Luz S. Rimorin Liezl M. De Lara	Gender Summit 9 Europe: Gender-based research, innovation and development for sustainable economies and societal wellbeing	Brussels, Belgium	November 8-12, 2016
Jose Naxiel V. Resolis	2016 Luzon Convention of Human Resource Management Practitioners (CHRMPS)	Philippine International Convention Center (PICC), Pasay City, Metro Manila	November 28-30, 2016
Jhan Jhan P. De Vera Charilyn Joy M. Layus Daniece Roy D. Cabrales Ma. Nerissa M. Nicolas	Linux Network Administration	2nd Flr. Designmix Building, 59 Con- necticut St., Greenhills, San Juan	November 28-December 3, 2016
Levita M. Tarnate	Basic Accounting and Internal Control for Non-Accountants	Hotel Kimberly, #770 Pedro Gil St., Malate, Manila	December 13-15, 2016
Anita E. Gorgonio	Social Media Teams, Structure and Protocols for the DOST System	Davao City	December 07-09, 2016
Mark John Paul R. Capistrano	CompTIA Network+		December 12-16, 2016
Karen Louise M. Villas Carizza V. Guevarra	Training on Data Analysis Using a Statisti- cal Software	NRCP Conference Room and Auditorium	December 12-15, 2016
Jei G. Nolido	IBM SPSS Training for Researchers	STRAND-Asia's Office, Amorsolo St. cor. Arnaiz Ave., Makati City	December 13-14, 2016

loyalty recognition

RECIPIENTS OF LOYALTY AWARD CY 2016
(Per CSC MC No. 06, s. 2002)

Name	Period of Continuous Government Service	Total Number of years in the Government Service As of CY 2016
OD		
Josette T. Biyo	06-01-1995 to 05-31-2010	15
	06-01-2010 to 05-31-2016	6
Liezl M. De Lara	06-24-2009 to 06-23-2016	7
Ma. Grace B. Sasota	03-05-2012 to 03-05-2016	4
Jemmalyn C. Miniao	12-16-2015 to 12-15-2016	1
FAD		
Luz. S. Rimorin	04-02-1984 to 04-01-2016	32
Sheslee F. Subida	05-04-2009 to 05-03-2016	7
Racquel M. Tolentino	07-09-1984 to 07-08-2016	32
Josefina S. Sta. Maria	01-05-1981 to 01-04-2016	35
Anita E. Gorgonio	01-02-1995 to 01-01-2016	21
Susan A. Dela Peña	02-01-1997 to 01-31-2016	19
Philip J. Bue	01-02-2013 to 12-31-2016	3
Joana Teresa Y. Medina	03-01-2012 to 02-28-2016	4
Ma. Teresa R. Castillo	06-16-1983 to 06-15-2016	33
STSD		
Alicia L. Asuncion	06-18-1975 to 06-17-2016	41
Ma. Daisy A. Demoni	09-26-1990 to 09-25-2016	26
Peter Gerry P. Gavina	04-01-2005 to 03-31-2016	11
Josefina A. Fernandez	04-20-1981 to 04-19-2016	35
Charilyn Joy M. Layus	05-16-2011 to 05-15-2016	5
Jhan Jhan P. De Vera	07-15-2014 to 07-14-2016	2
Susana F. Esquivel	09-24-2010 to 09-23-2016	6
Jeia G. Nolido	11-02-2016 to 12-31-2016	
Ma. Elena C. Agbuis	02-01-1997 to 01-31-2016	19
Ma. Nerissa M. Nicolas	10-20-2016 to 12-31-2016	

Number of Years in the Gov't. Service with Corresponding Loyalty Award Received											
Number of years for the Loyalty Award Received prior to 2002	2002	2003	2004	2007	2008	2009	2011	2013	2014	2015	Total
										5	5
-	-	-	-	-	-	-	-				-
10	5	-	5	-	-	5	-		5		30
-	-	-	-	-	-	-	-				-
10	5	-	5	-	-	5	-		5		30
15	5	-	-	5	-	-	5				30
-	-	-	-	10	-	-	5			5	20
-	-	-	-	10	-	-	-	5			15
10	5	5	-	-	5	-	-	5			30
20	5	-	-	5	-	-	5			5	40
-	10	-	-	5	-	-	5			5	25
-	-	-	-	-	-	-	-			10	10
15	5	-	-	5	-	-	5				30
-	-	-	-	-	-	-	-				-
-	-	-	-	-	-	-	-				-
-	-	-	-	10	-	-	-	5			15

RECIPIENTS OF LOYALTY AWARD CY 2016
(Per CSC MC No. 06, s. 2002)

Name	Period of Continuous Government Service	Total Number of years in the Government Service As of CY 2016
STMERPD		
Ruby R. Cristobal	12-05-1977 to 12-04-2016	39
Imelda S. Sario	10-05-1979 to 10-04-2000	21
	10-05-2000 to 10-06-2016	16
Juan Antonio R. Tuazon	10-11-2010 to 10-13-2016	6
Mark John Paul R. Capistrano	05-16-2011 to 05-15-2016	5
Mark Ivan C. Roblas	09-24-2010 to 09-23-2016	6
Ma. Cristina Mae S. Ilaw	06-08-2015 to 06-07-2016	1
Randolf S. Sasota	09-24-2010 to 09-23-2016	6
Geraldine L. Subida	02-01-1997 to 01-31-2016	19
Vergel P. Rebuta	09-01-1995 to 08-31-2016	21
Marren Joy J. Belgado	06-01-2011 to 05-31-2016	5
Gaius Karl G. Noble	10-18-2016 to 12-31-2016	
SEID		
Ruby D. Laña	07-01-1982 to 07-01-2002	21
	07-01-2002 to 07-01-2016	14
Amparo F. Olarte	04-16-1984 to 04-15-2016	32
Cynthia T. Gayya	09-04-1984 to 09-04-2004	20
	09-05-2004 to 09-05-2016	12
Rodelio G. De Asis	08-01-1991 to 07-31-2016	25
Edelmira B. Bustamante	07-27-1979 to 07-26-2016	37
Jobelle P. Gayas	05-16-2011 to 05-15-2016	5
Josephine S. Feliciano	10-15-1997 to 10-14-2016	19
Ma. Cecilia M. Sacopla	09-24-2010 to 09-23-2016	6
Joan G. Salise	09-24-2010 to 09-23-2016	6
April S. Dumayag	05-12-2011 to 05-11-2016	5
Ma. Lourdes V. Felicitas	01-02-1996 to 01-01-2016	20
Mary Angelica DC. Palomo	11-16-2015 to 12-15-2016	1

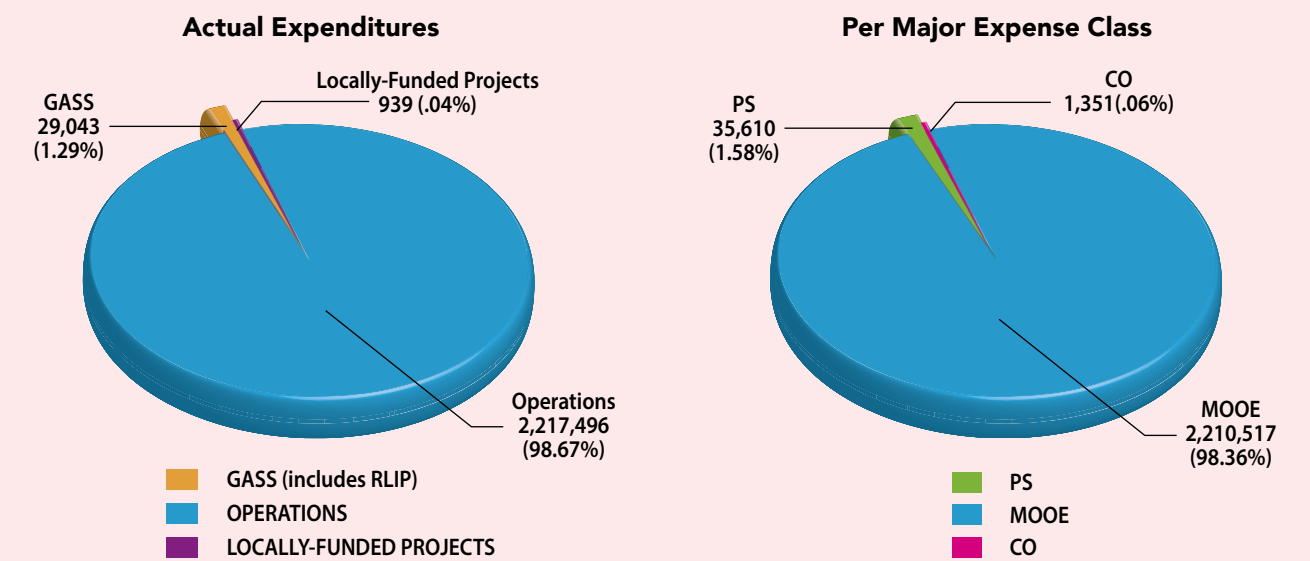
Number of Years in the Gov’t. Service with Corresponding Loyalty Award Received											
Number of years for the Loyalty Award Received prior to 2002	2002	2003	2004	2007	2008	2009	2011	2013	2014	2015	Total
20	5	-	-	5	-	-	-		5		35
20	-	-	-	-	-	-	-				35
-	-	-	-	5	-	5	-			5	
-	-	-	-	-	-	-	-				-
-	-	-	-	-	-	-	-				-
-	-	-	-	-	-	-	-				-
-	-	-	-	10	-	-	-	5			15
-	-	-	-	10	-	-	5			5	20
-	-	-	-	-	-	-	-				-
							-				
20	-	-	-	-	-	-	-				30
-	-	-	-	5	-	-	-	5			
10	5	-	5	-	5	-	-		5		30
20											30
-	-	-	-	-	-	5	-		5		
-	10	-	-	5	-	-	5				20
15	5	-	5	-	-	5	-		5		35
-	-	-	-	-	-	-	-				-
-	-	-	-	10	-	-	-	5			15
-	-	-	-	-	-	-	-				-
-	-	-	-	-	-	-	-				-
-	-	-	-	-	-	-	-				-
-	-	-	-	10	-	-	5				15

managing resources

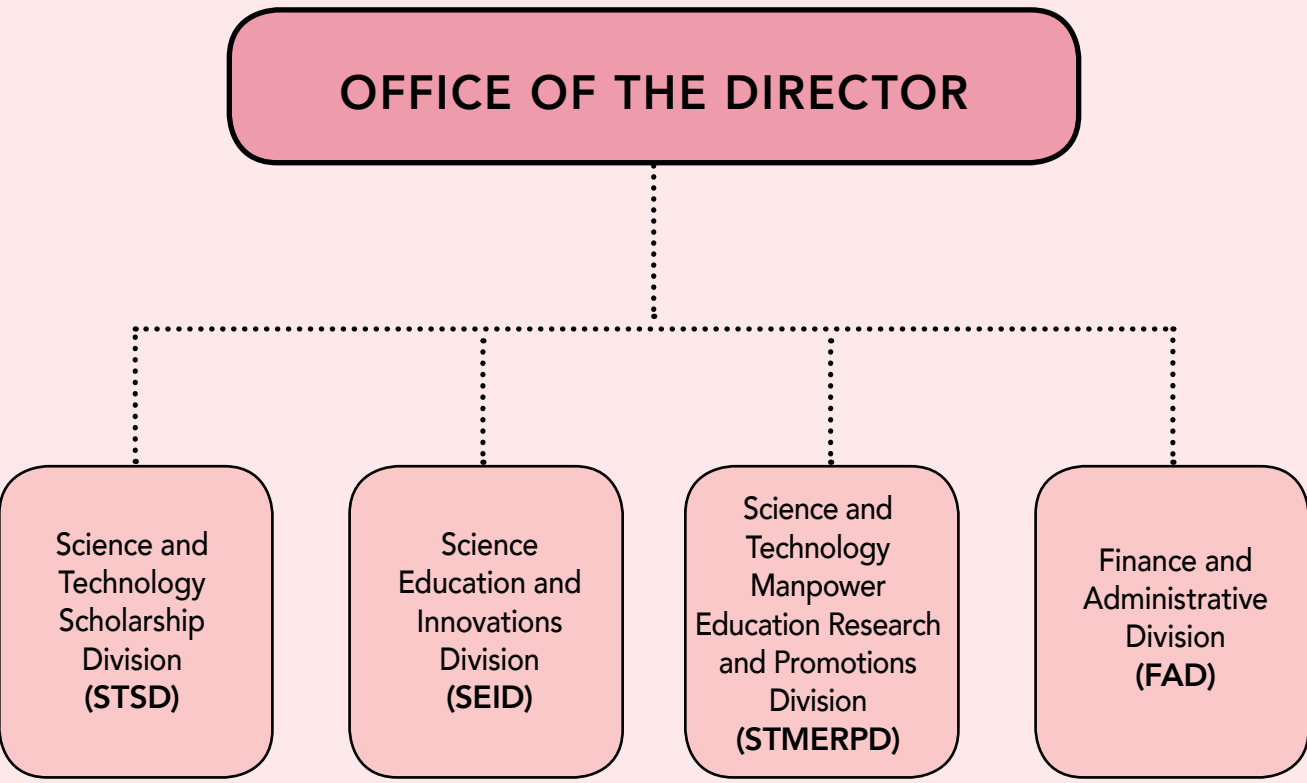
STATEMENT OF ALLOTMENT & OBLIGATIONS
(Amount In Thousand Pesos)

PAPS	PS		MOOE		CO		TOTAL		% Utilization
	Allotment	Obligation	Allotment	Obligation	Allotment	Obligation	Allotment	Obligation	
General Administration and Support Services	19,741	18,572	7,432	6,935	1,568	1,351	28,741	26,858	93.45%
OPERATIONS									
Development, Utilization and Implementation of S&T Scholarships	4,277	4,150	2,180,467	2,180,250			2,184,744	2,184,400	99.98%
Research, Promotion and Development of S&T Education and Training	10,705	10,703	22,998	22,393			33,703	33,096	98.20%
Locally Funded Project: Support to the Presidential Implementing PD 997			1,052	939	-	-	1,052	939	89.26%
Automatic Appropriations (RLIP)	2,303	2,185					2,303	2,185	94.88%
Total Budget	37,026	35,610	2,211,949	2,210,517	1,568	1,351	2,250,543	2,247,478	99.86%

BUDGET DISTRIBUTION
(Amount In Thousand Pesos)



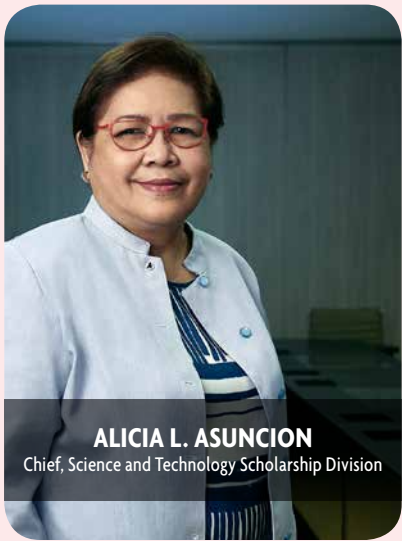
organizational chart



key officials



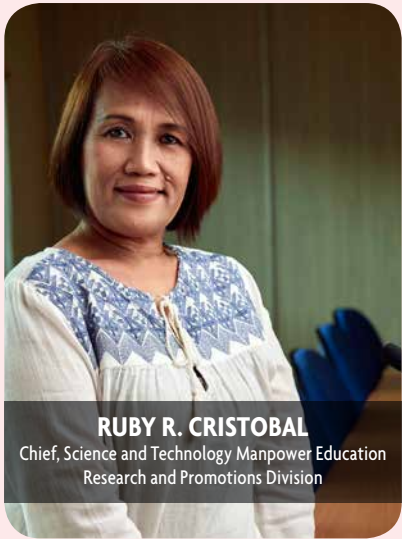
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Research and Promotions Division



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