DOST Features Outstanding Filipina Scholars and Scientists in 2015 NSTW Exhibit

Chosen for their outstanding scientific contributions, these DOST-PSHS Filipina scholars and scientists will be featured in the week-long National Science Technology Week on July 24-28, 2015 at the SMX Convention Center, Mall of Asia, Pasay City.

The exhibit, entitled, “She for We: Highlighting the Role, Life and Achievement of Filipina Scientists in the Local and International Scientific Community,” is a celebration of the contributions of Filipina science scholars and scientists to the country and the world.

Why the Filipina scientists? The exhibit’s proponents, DOST agencies namely Science Education Institute (SEI), Philippine Science High School (PSHS) System and National Academy of Science & Technology (NAST), explain that the science community has been, at different points in time, regarded as a male-dominated body with women relegated to the sidelines. Despite the vast contributions of the female race to mankind, they are overshadowed by the gender bias that often favors male scientists.

In the Philippines, the ratio between the male and female scientists, relatively and slightly favors male. The latest study on HR in S&T in the Philippines, conducted by DOST-SEI revealed that engineering, architecture and related professions remain male-dominated while medical professions like midwifery and nursing remain female-dominated.

Initiatives to create greater awareness in gender disparity in S&T profession, among Filipinos, is needed to bring about a culture of change in S&T community.

The DOST Scholars and Filipina scientists who will be featured in the exhibit are Dr. Ma. Corazon de Ungria, Dr. Gay Perez, Dr. Rowena Cristina Guevara, Dr. Rosalia Mercado-Simmen, Dr. Cymbeline T. Culiat, Dr. Maria Victoria Espaldon, Dr. Mary Ann Go, Dr. Reinabelle Reyes, Dr. Jacq Romero, Ms. Maria Antonia Arroyo, Dr. Lourdes Cruz, Dr. Milagros Ibe, Dr. Ester Ogena, Dr. Aura Matias, Dr. May Lim, Dr. Dolores Ramirez, Dr. Josette Blyo, Dr. Carmencita Padilla, and Dr. Filipinas Natividad.

The exhibit will highlight the role of these DOST Filipina scholars and scientists as pioneers, movers, risk takers, builders, innovators, dreamers, wall breakers, technopreneurs, icons and torchbearers for the advancement of science and technology.

Know more about the featured outstanding PSHS Women Scholars and Scientists on pages 4 and 5.

Let us get to know some of our scientists, up-close and personal, as they deliver their career-related talks on July 27, 2015 at Outcome 7 Exhibit Area, SMX Convention Center, Mall of Asia, Pasay City. To share their knowledge are Dr. Maria Corazon de Ungria (10-11AM), Dr. Reinabelle Reyes (11AM-12NN), Dr. Mary Ann Go (1:30-2:30PM) and Ms. Ma. Antonia Arroyo (2:30-3:30PM).

Free tickets for admission are available at the registration area or you may call 434-1066 for ticket reservation.

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DOST-PSHS Getting Ready for Grades 11 and 12, Continues to Improve Curriculum

Known as the premier secondary school in the Philippines, the DOST-Philippine Science High School (PSHS) System is currently updating and developing its curriculum to keep up with the changing times and remain competitive in the region.

“It is a hard task, but the System never stops upgrading and improving its curriculum,” Executive Director Larry L. Cabatic said. The System is also currently developing its curricula for Grades 11 and 12, which Dr. Cabatic describes as “a challenging and formidable task” for everyone.

A series of consultations with curriculum development experts, which include external and internal subject experts, have been conducted and continuously being done throughout the system by the System’s Research, Policy Formulation and Academics Division (RPAD) headed by Dr. Jessamyn Marie O. Yazon.

The PSHS 6-year Curriculum aims to nurture scholars to become holistic individuals who are humanistic in spirit, global in perspective, patriotic in orientation, and well-prepared to pursue careers in Science, Technology, Engineering and Math (STEM) which will contribute to nation building.

The curriculum framework which served as the basis of the 6-year curriculum was developed during the Australian Awards Fellowship seminar on Curriculum Development, Assessment and Evaluation and Promotion of STEM on April 14 – May 24, 2014 at Queensland University of Technology, Brisbane, Australia by the PSHS Team composed of Campus Directors - Ms. Virginia P. Andres (Main Campus), Ms. Elsie G. Ferrer (Bicol Region Campus), Dr. Shena Faith M. Ganela (Western Visayas Campus), Ms. Lilia T. Habacon (Central Luzon Campus), Ms. Delia C. Legaspino, Southern Mindanao Campus), Dr. Conrado C. Rotor, Jr (Cordillera Administrative Region Campus); and Dr. Jessamyn Marie O. Yazon (RPAD Chief) and former PSHS Executive Director Josette T. Biyo.

Through a program that is rooted in sound educational principles and geared towards excellence, it is anticipated that PSHS graduates are empowered 21st century learners with general capabilities that will prepare them to confidently pursue STEM careers as well as to become active and informed global citizens.

The general capabilities encompass the knowledge, skills, behaviors and dispositions that, together with curriculum content in various subjects and the values they embrace, will assist scholars to be holistically-developed, globally oriented, and well-prepared to pursue STEM careers.

The Curriculum Development Core Group is headed by Deputy Executive Director, Dr. Rod Allan A. de Lara and its members are: Dr. Conrado A. Rotor, Jr., Ms. Shena Faith M. Ganela, Dr. Jessamyn Marie O. Yazon, Ms. Janeth Morata-Fuentes, Ms. Marie Christine Obusan and Mr. Fortunato Tacuboy, III.
In order to have a better understanding of the DOST-PSHS System Curriculum especially on the aspects of the general learning capabilities and the learner profile, the System through the Office of the Executive Director—Research, Policy Formulation and Academics Division (RPAD), is set to conduct a series of seminar-workshops to (re) orient teachers of different campuses on the System’s curriculum framework.

The activity aims to (re) orient the teachers of the campuses of the complete PSHS system Curriculum Framework, with focus on the general leaning capabilities and the learner profile; share the outputs of the Curriculum TWG Workshop (validated curriculum maps), its interpretation and its possible implications; and spur the teachers to reflect on how they really implement the intended curriculum and let them design and propose appropriate teaching strategies to fill the gaps in the intended curriculum.

The first batch of seminar-workshop was conducted last June 15-18, 2015 at Atrium Hotel, Pasay City. A total of 47 teachers from Ilocos Region Campus (IRC), SOCCSKSARGEN Region Campus (SRC) and Caraga Region Campus (CRC) attended the workshop including their respective campus directors namely Dr. Ronnalee Orteza of IRC, Dr. Chuchi Garganera of SRC and Ms. Ruwina Gonzaga of CRC.

Earlier, the RPAD conducted a 5-day Curriculum Development and Writeshop for Grades 11 & 12 last May 3-7, 2015 at Baguio City attended by 51 teacher-members of the technical working groups on curriculum and assessment. The TWG on Assessment which consisted of 22 members checked papers of the pilot test for the Readiness/Achievement test while the TWG on Curriculum which consisted of 29 members validated the curriculum mapping results prepared by the OED-RPAD staff.

A very critical output during the Workshop was the validated curriculum maps of the different subject areas. The curriculum mapping identified the gaps in the curriculum that were not directly addressed by the content. Aside from the identified gaps in the curriculum as found out, there seems also a lack of common understanding among the different campuses, of the general learning capabilities. “Through the process, we get to know if the current curriculum content is meeting the capabilities and the competencies that we want to see and achieve in our scholars, RPAD Chief, Dr. Jessamyn Marie O Yazon explained.

The Baguio workshop, gave birth to the series of seminar-workshops that will be conducted by clusters or group of campuses nationwide.

One of the expected outcomes of this activity would be to come up with a collaborative learning community of teachers in the same subject area wherein new instructional strategies that may help address the seeming gaps in the intended curriculum can be shared.

The participants were also briefed on the International Baccalaureate curriculum and SCALE program by invited resource speakers.

The second batch of seminar-workshop will be conducted within the year for the Mindanao, Visayas and the rest of Luzon campuses.
Outstanding DOST-PSHS Women Scholars and Pioneers

Filipina scientists who were the first to explore and develop a scientific field in the country.

Dr. Maria Corazon de Ungria
PSHS Main Campus Batch 1985

- Head of the DNA Analysis Laboratory of the National Science Research Institute at the University of the Philippines, Diliman.
- NSDB Scholar
- DOST ESEP Scholar
- The first woman dean of UP Diliman’s College of Engineering.
- She is the catalyst in the development of relevant and timely courses such as Advanced Digital processing, Modern Audio Engineering, Digital Filtering, Biomedical Engineering and Speech Signal Processing.

Ms. Ma. Antonia Arroyo, MPhil Cantab
PSHS Main Campus Batch 1995

- CEO and founder of Hybridigm Consulting, the premier and pioneering biotechnology consulting and commercialization firm in the Philippines.
- Selected by the World Economic Forum to be one of the members of its 2015 Class of Young Global Leaders (YGL) in 2015; First Philippine delegate to the UK Future International Leaders Program in 2014, and hailed as a 2013 DevEx Chevron 40 under 40 International Development Leader and awarded the TOYM by the President of the Philippines in 2011.

Dr. Reinabelle Reyes
PSHS Main Campus Batch 2001

- Research Expertise: Data Science and Astrophysics.
- Led a team who proved Einstein’s Theory of Relativity on a cosmic level.
- Lead a team who discovered 900 quasars, the largest number of super massive black holes found.
- Recipient of several awards namely Richard Kaye Korn Prize, Princeton University; Centennial Fellowship, Princeton University; Chambliss Astronomy Achievement Student Award; Honorable Mention, AAS 211th Meeting; Martin Schwarzschild Graduate Fellowship, Princeton University.

MOVERS

Filipina scientists who set the wheels of change into motion and push the boundaries of science with their groundbreaking work.

Dr. Rowena Cristina Guevara
PSHS Main Campus Batch 1980

Wallbreakers

Going beyond the norm, these Filipina scientists undertook breakthrough researches.

Technopreneurs

Filipina scientists who harnessed their scientific prowess and used it to start up business.
Dreamer

Dr. Mary Ann Go
PSHS Eastern Visayas Campus
Batch 2000

- As a member of the Neuronal Networks and Neurophotonics laboratories at the Physics Education Center at the Australian National University, she worked on optical techniques for manipulating neurons and exploring neuronal function.
- Recipient of several awards and scholarships namely Balik Scientist Grant; Janelia Farm Conference Scholarship; ANU Vice Chancellor's Travel Grant; ANU Eccles Scholarship in Medical Sciences; National Tsing Hua University International Student Scholarship, Department of Biomedical Engineering and Environmental Sciences
- Conducted, published and presented studies related to lasers, photomobilization and neuroscience.

BUILDERS

Engineering the future, these Filipina scientists established several relevant and enduring scientific breakthroughs.

Dr. Rosalia Mercado-Simmen
PSHS Main Campus Batch 1969

- One of the world’s leading researchers in the biology of reproduction.
- Professor, Department of Physiology and Biophysics and Full-Time Faculty Member, The Winthrop Rockefeller Cancer Institute at the University of Arkansas for Medical Sciences (Little Rock, Arkansas, USA)
- Awarded Excellence in Mentoring (University of Arkansas for Medical Sciences).

Dr. Cymbeline Tangcongco – Culiat
PSHS Main Campus Batch 1978

- President & Founder and Chief Scientific Officer of NellOne Therapeutics, Inc.
- Studied the genetic and molecular basis of early mammalian development for a decade that led to the discovery of the role of the NELL1 signaling protein in pathways controlling growth and maturation of the musculoskeletal and cardiovascular systems.
- Chancellor’s Citation for Professional Promise (University of Tennessee)
- Federal Lab Consortium Excellence in Tech Transfer and Tech Transfer Key Contributor Award Recipient.

Dreamers

With hopes held high, these Filipina scientists embarked on challenging endeavours as they seek to create a niche of their own here and abroad.

Inspirational Quote:
“One of the most courageous things you can do is identify yourself, know who you are, what you believe in and where you want to go.”
– Sheila Murray Bethel

Builder

Dr. Ma. Victoria Espaldon
PSHS Main Campus Batch 1978

- Internationally recognized expert on ecosystems.
- Former Dean of the School of Environmental Science and Management and currently Vice Chancellor for Research and Extension, UP Los Banos, Laguna.
The DOST-PSHS Board of Trustees, after careful screening of all the candidates, has chosen Dr. John A. Andaya as the first campus director of the 14th DOST-PSHS Campus, the CALABARZON Region Campus (CBZRC).

Dr. Andaya started working in PSHS Main Campus in July 1990 as a Chemistry teacher (Special Science Teacher 1). Through hardwork and dedication, he rose from the ranks until he became Chief of the Curriculum Instruction and Services Division in 2012 until the time he was appointed as Campus Director of PSHS-CBZRC this year. Dr. Andaya holds two Masters degrees; one in Chemistry from the Centro Escolar University and another, in Public Management from the Ateneo de Manila University, the latter with scholarship from the DOST. He also has a Doctor of Technology degree from the Technological University of the Philippines. He underwent teacher training for Chemistry Education at the Shizuoka University in Japan as a Monbusho scholar. In 2009, his book for secondary schools, Chemistry: Science and Beyond, received a Quality Seal Award from the National Book Development Board. At present he is the Vice – President of the PACT or the Philippine Association of Chemistry Teachers and a member of the Board of Trustees of the Ateneo School of Government Alumni and Student Association, Inc.

When asked what made him stayed long in the PSHS, “I enjoy being challenged by the beautiful minds of Pisay students. Teaching bright students has kept me invigorated,” he said.

Dr. Andaya hails from Majay-jay Laguna, a part of Calabarzon Region. One of his objectives as leader of the Calabarzon Campus is to give back his services to his “kababayan.”

His vision for the Calabarzon Campus is “to produce scholars who will be among the Filipino world-class leaders in Science and Technology and to produce a campus that will become a model school not only for its academic excellence but for safeguarding the environment as well.”

His guiding principle in life? “I would like to think that the only real failure in life is not trying. I am not afraid to take on new challenges and risks. I never know what good will come from my efforts, but I do know that if I do not try facing the challenges, then nothing, whether good or bad, will come out. Whatever the outputs are, I am responsible for my actions. There is a greater force that guides me. God expects the most from me so I have to keep on,” he said. Dr. Andaya is happily married to Cynthia Viros Andaya, also a Chemistry Teacher at the PSHS-MC. They are blessed with two children - Patrick Jose IV V. Andaya, 20 years old, alumnus of PSHS-MC, UP student and daughter Ida Aurora V. Andaya, 18 years old, UP student.

The restored Mabini Building now called 'Bahay Kaalaman' which temporarily houses the DOST-Philippine Science High School CALABARZON Region Campus, is located inside the Batangas City National High School premises. The Calabarzon Region Campus will open this SY 2015-2016 with initial 59 enrollees (to date) in Grade 7. The city government of Batangas financed the restoration of this beautiful, historical landmark.
Ilocos Region Campus, welcomes New Campus Director

She’s not really new in the campus. Considered “homegrown” and rose from the ranks, Dr. Ronnalee N. Orteza started working in the PSHS-Ilocos Region Campus in 2004 as Science Special Teacher 1 (Math Teacher).

Prior to her promotion as Campus Director effective April 15, 2015, she was the Chief of the Curriculum and Instruction Services Division, a position she held since 2008. She acted as Officer-in-Charge of the campus since September 1, 2014 up to the time she was promoted.

Dr. Orteza holds a doctorate degree in Technological Education Management minor in Development Administration which she completed in 2008 at the Don Mariano Marcos Memorial State University, Mid-La Union Campus, San Fernando City, La Union. She finished her Master of Arts in Technological Education major in Mathematics in 2003; and Bachelor of Secondary Education major in Mathematics in 2001 in the same university where she graduated Cum Laude and awarded as Student Leader of the Year. Orteza’s leadership ability became more visible when she served as Sangguniang Bayan Member of the Municipality of Bacnotan, La Union from July 2001 to June 2004.

What kept her serving in the PSHS for years is the “idea of contributing to the development of this nation by nurturing academically its would-be leaders and forerunners in STEM. To be part of that great cause is an honor not everyone is privileged to have,” she said.

Challenges? “I have been faced with many challenges that tested my capacity to deal with myriad kinds of people. These challenges have often placed me in a position where I had to choose between what was comfortable for me and what was difficult yet necessary to be done.

I always chose to do the latter. I have come to terms with the fact that difficult decisions have to be made and, in so doing, we sometimes have to be selfless and forgo what’s good or comfortable for us to achieve and what’s better for the majority,” Dr. Orteza wisely replied.

“You reap what you sow. Do good and you will never go wrong!” is her guiding principle in life.

Orteza’s vision for the PSHS-Ilocos Region Campus is to become a center of excellence, nurturing scholars to be globally relevant STEM professionals. “To realize this, I came up with the mnemonics SOAR which shall serve as my guiding principle. S stands for Sustainable Operations, O for Outstanding Personnel, A for Academic Excellence and R for Relevant Linkages,” Dr. Orteza explained.

Dr. Orteza is blissfully married to Flordelino C. Orteza, Jr., Special Science Teacher IV of the same campus and are blessed with two children - Floraenne Janine & Frolaenne Janele.

The youngest among the PSHS campus directors, only 36 years old, Dr. Orteza truly epitomizes today’s young breed of dynamic leaders.

PISAY Gives Back

Almost 300 DepEd teachers from 16 public secondary schools attended the 3-days Teachers’ Training held last May 26-28, 2015 at the Teachers’ Conference Center, Batangas City. Selected subject teachers from the PHS-Main Campus served as trainers wherein they shared some of their best teaching practices and knowledge in Math, English and Science subjects, to the participants.

The activity is part of Pisay’s outreach program and commitment to the city government in collaboration with the DepEd Division of Batangas, for the mutual partnership of providing quality education to all.
High school students from science schools in seven countries got the chance to be mentored by Filipino experts during the just concluded 2nd Philippine International Science Fair (PISF).

Organized by the Department of Science and Technology - Philippine Science High School System (DOST-PSHS) in partnership with First Pacific Leadership Academy, the biennial fair aims to promote a culture of science among the youth.

For its second edition, the fair tackled issues concerning the environment and climate change with the theme “Innovate to Mitigate.”

Students from Indonesia, Japan, Korea, Malaysia, Singapore, Sweden and Philippines had the opportunity to closely interact with Filipino specialists who gave them valuable feedback and advice on their mini-projects during the prototyping sessions. For this activity, the participants were divided into teams with each team developing product prototypes, design, or project proposal of innovations that will mitigate or prevent disasters. Three scenarios were given, namely Lake Management: Saving Taal Lake, Urban Living: Making Metro Manila a Safer Place to Stay, and Sustaining Permaculture Farming.

According to Ceciree Villanueva of Cavite National Science High School, UP Diliman Geology and Environmental Science Prof. Dr. Carlos Primo David advised their team to focus on the root of the problem, on ways to stop people from throwing garbage into the creek.

Their team’s project, which they dubbed “Project Sphyder (Specialized Physical Debris Remover)” was chosen as “Best Project” under Scenario 2. The project was conceived during a study tour in Marikina wherein Villanueva and her groupmates Demi Antonette Jacomilla of PSHS Central Mindanao, Chiara Borgueta of PSHS Eastern Visayas, Justine Romero of PSHS Bicol, and Rohith Srinivas of Raffles Institution in Singapore, learned that during heavy rain, garbage clogs the water under the bridge along Marikina River in Brgy. Tuman. SPHYDER, they said, is a filter-like technology especially designed to remove the garbage faster, more efficiently and cost-effectively and eventually clean up the water.

Dr. David and another expert, UP Diliman Environmental Science and Meteorology Associate Prof. Dr. Tolentino Moya, also taught them that biological and chemical debris also pollute bodies of water aside from physical debris such as garbage.

Another activity, called Meet the Experts also gave the young participants a chance to listen to Filipino experts who shared their career experiences and knowledge. They were Dr. Perry S. Ong, professor and head of the Biodiversity Research Laboratory in UP Diliman’s Institute of Biology and Dennis G. de la Torre, Research Fellow at the Center for Local and Regional Governance in UP Diliman’s National College of Public Administration and consultant on the Special Committee on Climate Change in the House of Representatives.

Other scientists who shared their expertise during the science fair were UP Diliman Biology Prof. Dr. Zubaida U. Basiao, UP Diliman Biology Assoc. Prof. Dr. Luis Ma. Garcia, and Philippine Rice Research Institute Supervising Science Research Rizal G. Corales and Dr. Ricardo F. Orge.

A design thinking workshop, study tours, teachers’ forum, and poster making contest were also held during the four-day science fair.

PSHS Executive Director Larry L. Cabatic expressed his appreciation to all the participants, partner agencies, media partners and the organizers for making the event a successful one.

The Over-all Project Head of the 2nd PISF is Ms. Virginia Andres, Campus Director of PSHS-Main Campus with active participation of all the PSHS Executive Committee members and their respective campuses. (S&T Media Service/Pisay Info Team)