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S&T good news

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DOST's 'Omics' program ushers personalized medicine for Filipinos

By **Allyster A. Endozo**, DOST-STII



Panelists at the "Talakayang HearT BEAT" technology media conference (l-r): Dr. Rowena Cristina L. Guevara, Dr. Jaime C. Montoya, Sec. Fortunato T. de la Peña, Dr. Cynthia P. Saloma, and Dr. Rody G. Sy. (Photo by Henry A. de Leon, DOST-STII)

The right medicine with the right dose to the right Filipino. This, in essence, is how Department of Science and Technology (DOST) Secretary Fortunato T. de la Peña described the ultimate goal of the government's "Omics" program.

DOST presented the "Omics" program dubbed "Omic Technologies for Health: 'Lunas na Sakto sa Pilipino'" during the "Talakayang HearT BEAT" held on 27 February 2019 at the La Breza Hotel in Quezon City.

"Omics" pertains to disciplines in the field of biology that end in "-omics" such as genomics, proteomics, metabolomics, and the like. Said disciplines involve studies on different biological molecules, including their roles, relationships, and actions.

The "Omics" program will enable Filipino health professionals to develop new medications, diagnostics, public health surveillance systems, and even population databases for forensic

and paternity analyses that are tailor-made for the nation's unique ethnic, dietary, and environmental characteristics.

"Recent studies show that everyone reacts differently to medicines and therapies. Since most medications are formulated abroad, this population is adjusted to meet the needs of the people of its country of origin," Sec. de la Peña explained.

The increase in budget allocation for the country's omics R&D—from PhP31 M in 2014 to PhP312M in 2018—resulted in DOST's major achievements in recent years.

These include successful genetic studies among different Negrito groups, leptospirosis patients (the largest of its kind in an Asian population), and type 2 diabetics (involving 59,425 participants since 2014).

Another milestone is the establishment of the PhP 456M University of the Philippines -Philippine Genomics Center (UP-PGC) in

PH keeps record-breaking streak in int'l tilts

By **Lovely B. Aquino**, DOST-SEI

Some 730 young achievers in science and mathematics were honored recently at the annual Youth Excellence in Science (YES) Award held at the Philippine International Convention Center (PICC) in Pasay City.

The ceremony celebrated the victory of elementary and high school students in international science and mathematics competitions such as the International Mathematical Olympiad (IMO) and the Singapore International Mathematics Olympiad Challenge.

During the ceremony, said students from 120 schools in the National Capital Region were given the Secretary's Medal, which signifies the Department of Science and Technology's (DOST) high regard for excellence and competitiveness. Students from the other regions will also receive their medals in special ceremonies to be conducted by DOST regional offices.

During the awarding ceremony, DOST Secretary Fortunato T. de la Peña emphasized that the increasing trend is more than just an upsurge in numbers. "What we are more interested in is the quality that we elicit among our students, as well as the values we taught them during their training and actual competitions, and even after reaching their goals," he said.

On the part of the DOST-Science Education Institute (SEI), Director Josette T. Biyo thanked the awardees for showing the world the Philippine brand of excellence and hard work.

"We hope you can be our scholars and be with the people as you reach your dreams," said Dr. Biyo.

She also lauded parents, teachers, school officials, and national organizers of science and math competitions who supported the students.

YES awardee Emmanuel Osbert Cajayon of Emilio Aguinaldo College-Cavite expressed his gratitude to DOST as he shared his experiences and reflections. The IMO bronze medalist reminded his fellow awardees to focus on their

DOST's 'Omics'...

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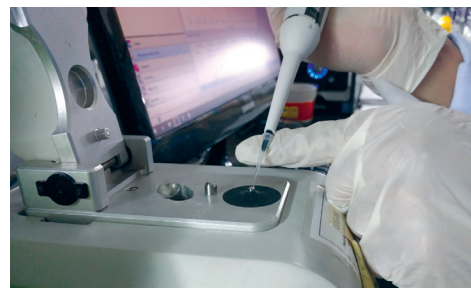
Diliman, Quezon City that provides next-generation sequencing services for sectors like agriculture, industry, and the environment. Similar units will be likewise launched in Miagao in Iloilo and Davao City.

Moreover, the "Omics" program will also enhance clinical practice guidelines and policies, particularly to address the country's leading causes of mortality—cardiovascular diseases, cancer, pneumonia, and HIV/AIDS.

"As our economy becomes more robust, the nature of our workforce continues to evolve [across] different age groups, social status, gender, ethnicity, social values, and lifestyle choices. Now, the people in the [middle-income] group are becoming more at risk to [these] lifestyle diseases," Sec. de la Peña elaborated.

DOST officials are banking on greater investment towards personalized, omics-oriented therapies, equipment, and infrastructure. More investments in this area will help raise the nation's universal healthcare system and be at par with those in developed countries.

The "Talakayang HeaRT BEAT" is the second in a series of DOST's technology media conferences promoting local science and technology projects and other endeavors.



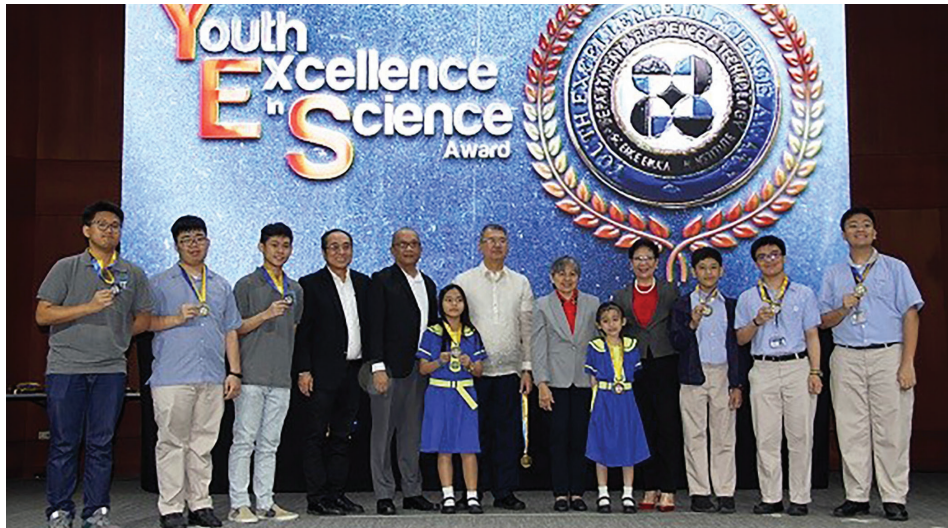
Omics-oriented technologies that the DOST plans to integrate with the government's forthcoming universal healthcare system. (Photos from DOST-PCHRD)

Joining Sec. de la Peña were DOST Undersecretary for Research and Development Dr. Rowena Cristina L. Guevara, Executive Director of the DOST-Philippine Council for Health Research and Development Dr. Jaime C. Montoya, Executive Director of the UP-PG

Dr. Cynthia P. Saloma, and Dr. Rody G. Sy, project leader on cardiovascular diseases at the Philippine General Hospital. Dr. Eva Maria Cutiongco-de la Paz, executive director of the National Institutes of Health, served as the event moderator.

PH keeps...

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2018 Youth Excellence in Science (YES) awardees in a group photo with DOST Secretary Fortunato T. de la Peña (center) and DOST officials during the awarding ceremony at the PICC. (Photo from DOST-SEI)

passion for their chosen fields and not just on achievements.

The YES Award is now on its 11th year, with each year showing a steady increase in the total number of awardees. From 70 student-medalists on its first year, 2018's total number of awardees is 1,469 (from 332 schools) – a 23 percent increase from the previous year's 1,195 and the highest number recorded in YES Award history.

Other DOST officials who were in the awarding ceremony include DOST Undersecretary for Scientific and Technical Services Dr. Carol M. Yorobe, DOST-SEI Deputy Director Albert G. Mariño, and DOST-NCR Regional Director Jose B. Patalinjug III.

The event was organized by the DOST-SEI, which spearheads the country's premier science scholarship program.

ABOUT US

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Research suggests use of digitized arts in HIV/AIDS awareness campaign

By **Rodolfo P. de Guzman**, *DOST-STII*

Recent research aimed at increasing the public's level of awareness on Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) suggests the use of digitized arts as an effective information campaign tool.

Said research conducted by Dr. Brian Saludes Bantugan, regular member of the National Research Council of the Philippines (NRCP) of the Department of Science and Technology (DOST), explored the use of arts as an effective communication tool to convey the health implications of HIV/AIDS, its social dimension, its medical treatments, and all scientific facts about the disease.

Dr. Bantugan stressed that massive information campaign should be implemented using more appealing and creative ways like the digitized arts. This is because most of the HIV/AIDS cases affect the youth aged 15-24, who are already very sexually active and at the same time are more appreciative of digitized arts. In fact, the youngest reported AIDS patient is 17 years old.

Further, Dr. Bantugan said that the country has one of the lowest rates of HIV/AIDS infection but has one of the fastest growing number of cases worldwide since the first case was reported in 1984.

Findings of said research were presented in a symposium organized by DOST-NRCP, titled "Communicating Basic Research Results to the People: Enhancing Public's Level of Awareness on HIV/AIDS through Digitized Arts."

The forum, held on 13 February 2019 at the Philippine International Convention Center in Pasay City, aimed to communicate and disseminate for possible adoption, some public policies based on the DOST-NRCP funded research on the production and use of digitized artworks in the campaign to increase the public's level of awareness on HIV/AIDS.

More social research needed

In his talk during the forum, DOST Secretary Fortunato T. de la Peña shared that the DOST-NRCP is the only research council that covers and supports research activities in all disciplines from physical sciences to social sciences and the humanities.

"I am happy to know that many agencies and organizations have collaborated to address the issues about HIV/AIDS like the Department of Health, Department of Education, the National Youth Council, legislators and communicators because it is important for the public to know



Science chief supports extensive research. During the forum on enhancing public's level of awareness on HIV/AIDS through the digitized arts, DOST Secretary Fortunato T. de la Peña stresses that the DOST-NRCP extensively supports research activities in various fields from the physical sciences to social sciences and humanities to find solutions to pressing problems affecting the country, one of which is about the health risks of HIV/AIDS. *(Photo by Rodolfo P. de Guzman, DOST-STII)*

the right information to prevent the disease from affecting more people particularly the youth," said Sec. de la Peña.

The science chief also said that the Council, with its member-researchers, is involved in different research activities like those on drugs for analysis and traceability and to certain extent on drug addiction, alternative medicine, environment, and other fields.

"We would also like to encourage our researchers to conduct more studies on other social concerns like teenage pregnancy, depression and suicide incidences, and on children's health," Sec. de la Peña added.

Arts for HIV/AIDS awareness

In his keynote message, Dr. Gundo Aurel Weiler, country representative of the World Health Organization shared the many creative ways of implementing effective information campaigns to increase public awareness on the health risks of HIV/AIDS being done by organizations in different countries.

The forum also provided an opportunity for celebrities from the arts sector to share their experiences and their advocacies on HIV/AIDS prevention and information. In attendance were multi-awarded film/TV actress and artist

Elizabeth Oropesa-Freeman who donated her own paintings for the cause, 2014 Bb. Pilipinas-International Mary Anne Bianca G. Guidotti, film/TV and theater artist Phillipe "Phi" S. Palmos, Outrage magazine editor-in-chief Michael David C. Tan, artist and Culture and Arts Managers of the Philippines member Jabar R. Esmael, director/writer Crisaldo V. Pablo, film director/writer/producer Emmanuel A. Dela Cruz, and Red Ribbon Care Management president Ramon "Ico" Rodulfo.

Lending support from the DOST community were DOST Undersecretary for Research and Development Dr. Rowena Cristina L. Guevara, DOST-NRCP President Dr. Ramon A. Razal, DOST-NRCP Executive Director Dr. Marieta B. Sumagaysay, DOST-NRCP Chair of Humanities Dr. Adelaida F. Lucero, DOST-Philippine Council for Health Research and Development Executive Director Dr. Jaime C. Montoya, DOST-Food and Nutrition Research Institute Director Mario V. Capanzana, and DOST-Science and Technology Information Institute Director Richard P. Burgos.

An arts exhibit with paintings and creative works from different stakeholders were mounted as part of the one-day forum. Some 60 people likewise availed of free HIV/AIDS screening during the event.



DOST Secretary Fortunato T. dela Peña swears in new DOST-ITDI Director Annabelle V. Briones.

Briones is the new ITDI Director

Text and photo by Reginald Rey U. de la Cruz, DOST-ITDI

After serving for more than a year as the Officer-in-Charge of the Institute's Office of the Director, Dr. Annabelle V. Briones officially assumes the directorship of the Department of Science and Technology-Industrial Technology Development Institute (DOST-ITDI). DOST Secretary Fortunato T. dela Peña swore her in on 21 February 2019 at the conference

room of the Advanced Device and Materials Testing Laboratory before the DOST Executive Committee and invited DOST-ITDI staff.

Dr. Briones succeeded Dr. Maria Patricia V. Azanza whose term as director ended on 31 December 2017. Dr. Briones was also serving as DOST-ITDI's Deputy Director for Research and Development when she became DOST-ITDI's OIC on 1 January 2018.

She indeed rose from the ranks for the past 35 years, starting out as a Science Research Specialist I (SRS I) at the then National Institute of Science and Technology (NIST) and eventually promoted to Supervising Science Research Specialist and then as Chief Science Research Specialist of the Chemicals and Energy Division.

An expert in both chemistry and engineering, her decades' worth of researches in carrageenan and other pharmaceuticals as well as the development of the mosquito ovi-larvicidal trap has won her and DOST-ITDI various awards within the scientific community. Such recognitions earned her the title Scientist I in 2018.

Hailing from Balingasag, Misamis Oriental, she earned her undergraduate degree in chemistry from Xavier University-Ateneo de Cagayan in Cagayan de Oro City in 1981. Upon graduation, she taught for a year at the Don Mariano Marcos Memorial University. After that one-year teaching stint, she got in at DOST in 1982 as an on-the-job trainee at the NIST and as contractual employee in 1983 at the then National Science and Technology Authority before getting a permanent post in 1984 as SRS I. She also earned her master's degree in chemistry from the University of Santo Tomas and her doctorate in engineering from Keio University in Japan.

An outstanding researcher. A brilliant scientist. A strict yet gentle leader. A fabulous and loving wife and mother of three. And now, DOST-ITDI Director. Congratulations, Ma'am Annabelle!

inFOCUS

DOST-MIMAROPA director receives outstanding mover award.

Dr. Ma. Josefina P. Abilay (right), regional director of the Department of Science and Technology-MIMAROPA, was named as one of the Ten Outstanding Movers of the Philippines (TOMP) for leadership and public service. Director Abilay was cited for her notable contributions to the socioeconomic development of the MIMAROPA region, particularly in the areas of poverty alleviation, disaster risk reduction and management, and climate change adaptation.

Annually conferred by the Students' Actions Vital to the Environment and Mother Earth Movement, the TOMP seeks to inspire prime movers from different sectors of the society to proactively engage in the protection and preservation of the environment on personal and professional levels. The award recognizes the selfless and exemplary contribution of Filipinos in the pursuit of making the world a safe and meaningful place to live in.

The awarding was held at the Kalayaan Hall, Malacañang Palace on 28 February 2019. Department of Environment and Natural Resources (DENR) Secretary Roy A. Cimatu (left) presented the award on behalf of President Rodrigo Duterte.

Previously, Director Abilay has been awarded the 2015, 2017, and 2018 Kalasag Award for her exemplary contribution in building community resilience. (Text by Charlotte F. Pizarra, DOST-MIMAROPA and photo from DOST-MIMAROPA)

