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DOST-PCIEERD boosts tech trans thru FASTRAC

By Edward Paul Apigo, DOST-PCIEERD
 Photos from DOST-PCIEERD



DOST Secretary Fortunato T. de la Peña (seated, second from left), DOST-PCIEERD Executive Director Dr. Enrico C. Paringit (seated, second from right), and UP Diliman Chancellor Michael L. Tan (seated, third from left), together with other guests during the launching of spin offs and licensed technologies.

To strengthen the commercialization of technologies generated by researchers, the Department of Science and Technology (DOST)-Philippine Council for Industry, Energy, and Emerging Technology Research and Development (DOST-PCIEERD) established the FASTRAC or the Funding Assistance for Spinoff and Translation of Research in Advancing Commercialization program.

FASTRAC, a “researcher/technology-focus” program, bridges the gap between research and development and commercialization of technologies funded by the DOST-PCIEERD. It is designed to translate research outputs into market-ready products, or simulate a start-up operation through a spin-off project for one year.

The fund assistance aims to validate the problem, market, product, and willingness to pay for the services/technologies from DOST-PCIEERD-funded research; translate research

outputs into products and/or services; provide support for researchers and/or their teams to spin-off or startup; and connect researchers to business support groups in commercializing technologies.

The program, handled by the Research Information and Technology Transfer Division (RITTD), is currently supporting five DOST-PCIEERD-funded technologies that are establishing their spin-off companies.

CATCH-ALL or Contactless Apprehension of Traffic Violators De La Salle University (DLSU) is a vision-based artificial intelligence analytics software for traffic and transport applications. Under the CATCH-ALL system, all types of vehicles and violations will be detected via its smart camera video capture. The system will display the vehicle’s detection and tracking, profiling, plate localization, and plate character recognition for more detailed traffic violation identification. CharM or Charging in Minutes (University of the

Philippines (UP) Diliman) is a system for fast charging electric vehicles (EV) that are using the lithium-ion battery storage technology. CharM provides an alternative charging strategy that eliminates the need for several hours in order to fully charge an EV. The conventional four to six hours in slow charging is reduced to less than an hour or even a matter of minutes for smaller vehicles.

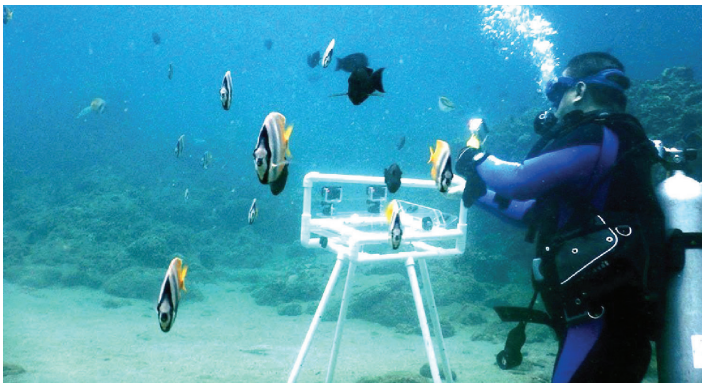
USHER or Universal Structural Health Evaluation and Recording System (Mapua University) is a building structure health monitoring system composed of an accelerograph/sensor web portal system. The patent-pending technology, once installed, will allow building managers to monitor the structural integrity of the building, and ensure economical and hassle-free compliance with Philippine government regulators. Unlike existing products, USHER has streamlined and tailored the system to the local market, making it remarkably lower in cost while still



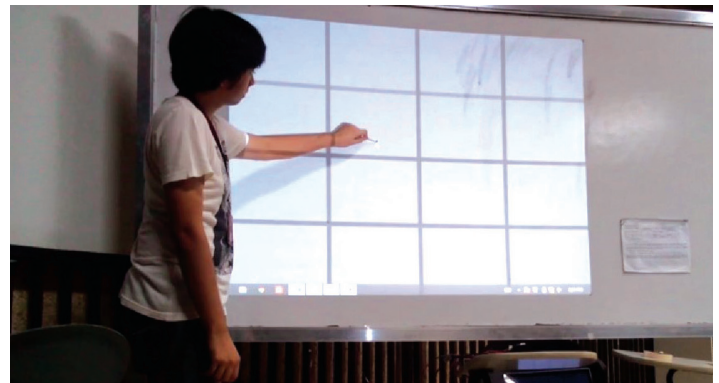
CharM EV Chargers



CharM charging station in Cauayan City, Isabela



Demonstration of Fish-I equipment



Demonstration of Smart Surface Technology on a white board

offering a complete solution to ensure business continuity.

Fish-I (UP Diliman) is a fish census hardware-software technology that allows for rapid reef assessment. It utilizes an underwater camera that records along a transect of a fishing site then analyzes the footage into data that can easily be viewed and understood by users on a computer. The data gathering is done in minutes and covers a total distance of 50 meters. The system generates automated data for fish count, fish population density, fish identification, fish length, and fish biomass.

Smart Surface (UP Diliman) is an electronic sensor system that can convert virtually any flat surface into an interactive interface. Also, it is a system composed of a number of sensors with a central controller that is more affordable and robust than Smart board. Smart Surface boasts of its distinct features that can compete with the already existing products in the market. Its content can be customized according to the client's preference; it is portable; it can be installed in existing surfaces; and most importantly, it is low-cost with speedy after-sales support in cases of replacement, repair services, or technical help.

The USHER spin-off was formally launched by Mapua University in September 2019, while the CharM, Fish-I and Smart Surface spin-offs were launched by UP Diliman in October 2019. The Catch-All spin-off on the other hand is targeted to be launched by the DLSU this November. Aside from these five technologies, the FASTRAC program is also funding Marine Nanocoat from DLSU and Monascus Colorants from UP Los Baños under its translation track to translate these research outputs into market-ready products.

According to Russell Pili, chief of RITTD of DOST-PCIEERD, the FASTRAC is a follow-up program for handholding technologies until commercialization. "It is basically a funding mechanism that pushes our researchers to pursue commercialization of their projects and also eases their researches into the field of doing business," she added.

The DOST-PCIEERD Technology Transfer Division is targeting twenty-one (21) technologies to be funded under the FASTRAC Program in the next three years. Interested researchers may contact the Chief of RITTD, Russell Pili, at 837-2071 local 2102 or via email at russellpili@gmail.com.

ABOUT US

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Preparedness, accurate info will save lives, says DOST-PHIVOLCS

Text and photo by Rodolfo P. de Guzman, DOST-STII

Preparedness by knowing the correct information about any natural hazard spells the difference between experiencing a disaster and being safe from it.

This was the key message stressed by Dr. Renato U. Solidum Jr., undersecretary for Disaster Risk Reduction and Climate Change of the Department of Science and Technology (DOST), during the celebration of the World Tsunami Awareness Day (WTAD) on 05 November 2019 at the PHIVOLCS Auditorium, Quezon City.

Usec. Solidum, the so-called “Fault Finder” (a monicker attributed to him as an expert on the different faults in the Philippines) and officer-in-charge of the DOST-Philippine Institute of Volcanology and Seismology (DOST-PHIVOLCS), emphasized the importance of having the right information about tsunami—how it is created and how it can affect coastal communities after an earthquake.

“We need to educate our people on what tsunami is and how they should respond and to know their evacuation plan or route to remain safe,” said Usec. Solidum.

According to him, natural hazards like earthquake, tsunami, or landslide cannot be avoided nor can these be precisely predicted before they happen, but the negative effect can be reduced or mitigated with appropriate knowledge of the science behind them.

Backtracking to past earthquake and tsunami events in the Philippines, Usec. Solidum underscored the need to ensure that infrastructure like houses and buildings ascribe to the National Building Code of the Philippines. Tragedy occurs when these infrastructure collapse because of the use of substandard materials that are not compliant to engineering specifications.

Usec. Solidum referred to the “How Safe is Your House?” brochure produced by the DOST-PHIVOLCS that specifies the quality of building materials that can withstand strong earthquakes, like the use of six-inch hollow blocks compared with just four-inch hollow blocks, as well as the use of the 10mm reinforced steel bars instead of just the 6mm size.

“People should know the characteristic of tsunami whether the tsunami is distant (emanating from other countries) or local (occurring in the Philippines) because the preparation time will vary from just as short as 20 minutes before it hits land or up to one hour or more, so as not to create unnecessary panic,” stressed Usec. Solidum.

On the other hand, Mylene M. Villegas, chief of the Geologic Disaster Awareness and



Evacuation route and signage for tsunami. Dr. Renato U. Solidum Jr. (second from left) emphasizes the importance of creating an evacuation route and installation of signages or markers in strategic locations to inform the community ahead of time to remain safe during the occurrence of tsunami.

Preparedness Division of DOST-PHIVOLCS, presented the different disaster mitigation initiatives of the agency for earthquake, tsunami, and landslide in accordance to the Sendai Framework and its ongoing partnership with different international agencies like the Japan International Cooperation Agency.

Villegas mentioned the different activities of DOST-PHIVOLCS to address tsunami like the following: installation of 19 tsunami early warning detection system using sensors; establishment of five Tsunami Detection Centers; 10 Tsunami Community-Based Early Warning System in cooperation with local government units; 104 earthquake monitoring stations; and the holding of regular tsunami drills in schools.

Further, the agency bannered the use of innovations like drones for disaster risk assessment and the adoption of digital technology to aid in gathering data for decision making.

DOST-PHIVOLCS is currently implementing the GeoRiskPH which is under the agency's Risk Information Management and Assessment Program. This initiative is envisioned to benefit both operations and R&D of the agency through

continuous research, analysis, and development of platforms, methods, and applications for hazards and risk assessment.

As a result of the GeoRiskPH program, DOST-PHIVOLCS recently launched the HazardHunterPH, a web application designed to increase hazard assessment accuracy, improve process efficiency, and enhance the ease of doing business in relevant private and government institutions. It can be accessed through the website <https://hazardhunter.georisk.gov.ph>.

During the WTAD celebration, Mabelle T. Cahulogan of GeoRisk Philippines of DOST-PHIVOLCS, presented another digital app called the GeoAnalytics. This enables analysis and visualization of the exposure of population and elements at risk to natural hazards and generates summaries of hazards and risk assessments. This tool will be very important for disaster risk managers, local government executives, urban planners, and other institutions.

The United Nations General Assembly in December 2015 declared 05 November every year as World Tsunami Awareness Day to promote a global culture of tsunami awareness.

Two Pinoy docs chosen among IAP's Young Physician Leaders

By Dhan Michael L. dela Peña, DOST-NAST

Photos from DOST-NAST

Two Filipino doctors are among the next generation of physician leaders who have been selected for this year's InterAcademy Partnership's Young Physician Leaders (YPL) Programme. Dr. Jaifred Christian Lopez and Dr. Raymond Francis Sarmiento joined 20 other outstanding early career physicians in Berlin, Germany on 22-24 October 2019 at the World Health Summit, a leading international forum for global health.

Over the past nine years, the InterAcademy Partnership (IAP) has been conducting the IAP Young Physician Leaders Programme, which is internationally known for its tailored workshop on leadership. The program is focused on analyzing models of leadership in the hope of developing an individual action plan for personal leadership growth.

It has so far provided 191 outstanding young health professionals with skills and knowledge that they will need to promote health and strengthen health systems around the world.

The participants of the program are chosen by a committee of medical and scientific professionals who reviewed the nominations received by the global network of the IAP that includes 140 national and regional member academies collaborating to provide independent expert advice on scientific, technological, and health issues, and the "M8 Alliance", a unique network of 25 leading international academic health centers, universities, and research institutions.

For this year, the Department of Science and Technology-National Academy of Science and Technology, Philippines (DOST-NAST PHL) the country's premiere recognition and

advisory body on matters related to science and technology, nominated Drs. Lopez and Sarmiento, who both made it as official participants of the program.

Dr. Lopez is currently a health policy research and faculty member of the Department of Epidemiology and Biostatistics at the College of Public Health, University of the Philippines (UP) Manila. His notable works include his service in the Doctors to the Barrios Rural Physician Deployment program of the Department of Health for over two years (2011-2013). Dr. Lopez also led the successful implementation of the pioneer project modelled on the World Health Organization Package of Essential Non-Communicable Disease Interventions Protocol. The said project enabled the engagement of civil society and local government particularly the senior citizens and the rural women's sector.

He obtained his Bachelor of Science in Basic Medical Sciences-Integrated Liberal Arts and Medicine (Intarmed) Program in 2008 and his Doctor of Medicine degree in 2011 in UP Manila. In 2013, he finished his Masters in Public Management, major in Health Systems and Development at the Development Academy of the Philippines.

Dr. Sarmiento, on the other hand, serves as director of the National Telehealth Center at the National Institutes of Health in UP Manila. His current research projects include health data science, health information exchange for genetic diseases, standards and interoperability, clinical decision support, telemedicine, and public health surveillance.

He obtained his Bachelor of Science in Psychology in UP Diliman where he graduated cum laude in 2003 and his Doctor of Medicine degree in UP Manila in 2008. This year, he was recognized by DOST-NAST PHL as one of the



Lopez

Sarmiento

Outstanding Young Scientists for his notable contributions in the field of biomedical and health informatics.

At the World Health Summit, Drs. Lopez and Sarmiento engaged with a diverse group of outstanding early career physicians (ages 40 and below) with multiple specialties and career interests such as education, clinical practice, public health, health policy, and research, who are committed to be the agents of change for health in their countries.

They also participated in peer-to-peer learning and matchmaking mentorship scheme at the World Health Summit, and were exposed to interactive websites that can post real-time professional information that can gain visibility both nationally and internationally.

Dr. Peggy Hamburg, IAP Health co-chair, said that effective health care and health policy need effective leaders and that more countries should provide necessary training for young professionals to hone their leadership skills. Moreover, IAP President and IAP Health Co-chair Depei Liu added that by being IAP Young Physician Leaders, they will be able to join a network with members who they can continue to share their experiences and best practices in their respective fields.

inFOCUS



Packs of hope. In response to the need for supplementary food, the Department of Science and Technology-Region XII turned over 2,490 pouches of DOST's so-called "Pack of Hope" ready-to-eat (RTE) chicken *arrozcaldo* (rice porridge), 504 pouches of RTE smoked fish with rice, and 150 packs of BigMo (*bigas-monggo*) curls to the Provincial Disaster Risk Reduction and Management Council of Cotabato on 01 November 2019. The turnover is part of the pledge to give 6,000 DOST-developed food packs to affected families of the recent earthquake in Central Mindanao. The Pack of Hope RTE food is a disaster mitigation/relief food product, while the BigMo curls is a nutritious snack made from rice flour and mung beans. The pack of Hope was developed by the DOST-Industrial Technology Development Institute, while the BigMo was created by the DOST-Food and Nutrition Research Institute. (Text by Enrico A. Belga Jr., DOST-CO, photo from DOST-XII)