



Making science
work for you

Inside

DOST'S nanotech lab open to the public	p2
DOST Health Info in a tablet docks in MIMAROPA	p3
Dost scholarships offer ray of hope for Yolanda-stricken Region VIII	p4
InFocus	p4

Three Congressional Awards for DOST

By Joy L. Lazcano

S&T Media Service, *DOST-STII*

Department of Science and Technology (DOST) Secretary Mario G. Montejo received an unprecedented harvest of three congressional recognitions for outstanding acts and services by DOST, from no less than Speaker Feliciano Belmonte in a ceremony at the House of Representatives.

The congressional awards were embodied in three approved House Resolutions commending the Department. These are House Resolution No. 194, House Resolution No. 196, and House Resolution No. 201.

House Resolution No. 194 is a Resolution Commending the DOST for Winning the Prestigious Geospatial World Excellence in Policy Implementation Award for 2014, for its Disaster Risk and Exposure Assessment for Mitigation (DREAM) Program.

The Geospatial World Excellence in Policy Implementation Award is handed out by industry magazine Geospatial World Forum in recognition of exemplary innovations and practices in the global geospatial industry.

The Resolution stated that "the Geospatial World Excellence Award is a clear demonstration



Sec. Montejo received the House Resolutions from House Speaker Feliciano "Sonny" Belmonte.

that the international community acknowledges our local capability-building efforts to attain self-sufficiency in natural hazard and disaster preparedness and risk management."

The award was received by Montejo and DREAM Program Leader Dr. Enrico Paringit at the Geospatial World Forum Awards ceremony in Geneva, Switzerland on May 8, 2014.

On the other hand, House Resolution No. 196 is a Resolution Commending the Employees of the PAGASA Station in Tacloban City, Leyte for Loyalty to their Oath of Office and Dedication to Duty During the Onslaught of Typhoon Yolanda on November 8, 2013.

continued on page 3



DOST Assistant Secretary Robert O. Dizon shows to DTI Undersecretary Adrian Cristobal Jr. the testing facilities that will enable local auto industry to surge ahead. (Photo courtesy of DOST-MIRDC).

DOST testing facility to speed up auto industry

By Allan Mauro V. Marfal

S&T Media Service, *DOST-PCIEERD*

The Department of Science and Technology (DOST) is looking to accelerate the growth of the local automotive industry by helping it to produce high-quality auto parts.

DOST's Metals Industry Research and Development Center (MIRDC) recently launched its Auto-Parts Testing Facility in Bicutan, Taguig as part of the week-long celebration of Metals and Engineering or M&E Week.

The facility will serve as a testing center for local parts manufacturers so that expenses incurred from overseas testing will be minimized. Housed within the facility are more than 30 pieces of equipment performing different testing services for automotive and other metal-related industries, such as hardness measurement of metallic material

and rubber, thickness measurement for base metal, simulated crash analysis, tire endurance testing, and accelerated corrosion tests.

"The reason why this project was conceptualized is to address the challenges faced by the automotive industry firms, both assemblers and parts manufacturers, in terms of product improvement" said Engr. Florante Catalan, chief of MIRDC's physical laboratory section.

According to him, the Philippine automotive industry is relatively small when compared to its ASEAN neighbors in terms of number of players and their production size. Thus, there is a need for government not to hit the brakes on the industry's growth, but instead accelerate its technological advancement.

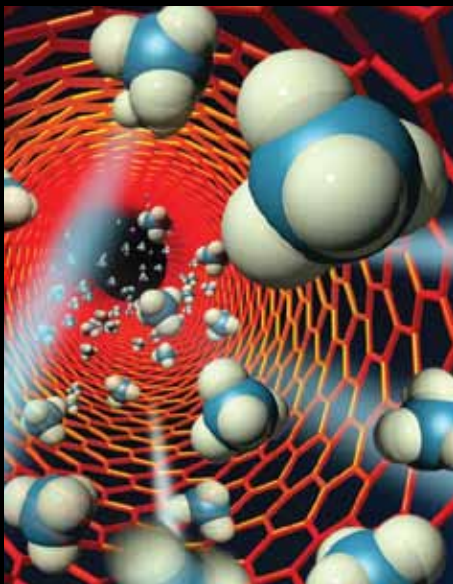
continued on page 2

DOST'S nanotech lab open to the public

By Adella Guevarra

S&T Media Service, DOST-ITDI

laracdesma9.blogspot.com.jpg



Pinoy techies and science enthusiasts will learn to appreciate nanotechnology as they familiarize themselves with its products when NanoLab, one of the few nanotechnology research labs in the Philippines, opens its doors to the public on July 1, 2015.

Nanotechnology is the study and manipulation of matter at a scale of about 1 to 100 nanometers. It involves characterization,

design and production of structures, devices, and systems with unique properties by fine-tuning the physical, chemical, mechanical, and optical properties of materials at the nanoscale.

A project of the Department of Science and Technology-Industrial Technology Development Institute (DOST-ITDI), NanoLab provides R&D opportunities and technical services to local industries via world-class equipment and devices.

Foremost of these is FE-TEM, a high-resolution field emission transmission electron microscope which is the only one of its kind in the Philippines. FE-TEM can magnify materials up to 1.5 million times.

NanoLab's array of sophisticated equipment also includes an Atomic Force Microscope, Particle Surface Area Measurement, Scanning Electron Microscope, Dynamic Light Scattering Particle Size Analyzer, and others.

"Now our Juan techies can personally appreciate the look and feel of new nano products," enthused Josefina R. Celorico, supervising science research specialist from ITDI's materials science division.

"We decided to rely on what are abundant, unexploited, and natural organic or inorganic nanomaterials," she explained about the material type chosen by NanoLab which is housed at the Materials Science Division Building.

Materials like cassava, corn starch, nanoclay

from Bicol, and zeolite from Pangasinan have taken the nanoresearch spotlight. The list of materials also includes silica or quartz from Camarines Sur, natural rubber and halloysite from Mindanao, and calcium carbonate.

After the required separation, consolidation, and re-development of materials by one atom or one molecule, several innovations were developed.

Among these are a nanofiber from zeolite for purifying methane gas in methane-running pipelines which is ideal for industries powered by biogas digesters, and a 100 percent biodegradable food cutlery.

"Toxin migration tests conducted by the packaging technology division of ITDI were negative," related Dr. Marissa A. Paglicawan, supervising science research specialist from ITDI, in reference to the biodegradable cutlery.

Another is a fiber membrane/ filter for treating heavy metal contaminated water using chitosan (chitosan is made by treating shells of shrimp and shellfishes), suitable for waste management.

Also in the list are the high-performance concrete due to silica additives, the cost-efficient nano titanium dioxide for cleaning and maintenance of glass walls and metals, and the metallic zinc nano silica composite coating for steel-based tools, parts, and components which can improve corrosion resistance.

DOST testing ...from page 1

Catalan also pointed out that the One ASEAN "policy that is implemented starting this year is one of the major reasons why this project was developed. Local parts manufacturers shall be able to produce products with high quality at a competitive cost against imported automotive parts and components manufacturers from other ASEAN member countries."

During M&E Week, DOST also signed a Memorandum of Understanding with the Motorcycle Development Program Participants Association, Inc., Motor Vehicle Parts Manufacturers Association of the Philippines, and Mechatronics and Robotics Society of the Philippines as the Department's newest partners under its MakiBayan initiative.

Short for "Makinarya at Teknolohiya para sa Bayan," MakiBayan aims to spur the growth of the metalwork and related industries by providing a roadmap outlining R&D thrusts for the industry to achieve more sustained growth and overall development.



About us

The DOST Digest is published by the Science and Technology Information Institute- Department of Science and Technology
For comments, suggestions or queries, contact: (02) 837-2071 loc. 2148/839-2193 local 107 or email: dost.digest@gmail.com

Framelia V. Anonas
Editor-In-Chief

Joy M. Lazcano
Managing Editor

James B. Infia
Layout

Maria Luisa S. Lumioan
Proofreader

Ferdinand D. Caritas
Circulation

Science and Technology Information Institute-
Department of Science and Technology
Bicutan, Taguig City, Metro Mla. 1631
Philippines

www.stii.dost.gov.ph

Like us on Facebook/Science and
Technology information Institute (DOST)





Sec. Montejo receives compliments from members of the Honorable House of Representatives.

On said date, PAGASA employees working at the station in Tacloban City Airport steadfastly provided weather updates and observations despite the imminent threat of the super typhoon. Chief Meteorological Officer Mario Peñaranda, weather observers Romeo Elvina and Nilo Polinas were found injured among the ruins of the PAGASA station. Unfortunately, the body of weather observer Salvacion Avestruz continues to be missing.

Meanwhile, House Resolution No. 201 congratulates Montejo for being named as 2014 Most Distinguished Alumnus by the University of the Philippines Alumni Association (UPAA).

The UPAA cited Montejo as a gifted and multi-awarded engineer and inventor who has a long list of technological innovations. These include a locally fabricated equipment for making water well screens, fabrication of steel poles for making gabions used by MERALCO, NPC and the National Electrification Administration, design of the first motorized zip line in the world, and the first locally developed robotic carpark located in Frontera Verde, Tiendesitas, Pasig City.

The UPAA likewise cited Montejo's accomplishments in reshaping DOST's policies and programs for national development in partnership with colleges, universities and other organizations to develop appropriate technologies, improve industry competitiveness, and enhance the delivery of social services.

On hand to witness the presentation of approved House Resolutions were the chairman and members of the House of Representatives Committee on Science and Technology led by Rep. Victor J. Yu, DOST Asst. Sec. Raymund E. Liboro, PAGASA Deputy Administrator Dr. Landrico Dalida Jr., DOST and PAGASA employees. (S&T Media Service)

DOST Health Info in a tablet docks in MIMAROPA

By Maria Luisa S. Lumioan
S&T Media Service, DOST-STII

A health information support system in a tablet has arrived in the islands of MIMAROPA (Mindoro, Marinduque, Romblon, Palawan) to help local government officials make informed decisions about health-related concerns in their localities.

The ceremonial turn-over of the tablets dubbed as eHATID (eHealth TABLET for Informed Decision-making) was one of the highlights of the recent Science Nation Tour: Agham na Ramdam MIMAROPA leg, a roadshow of the Department of Science and Technology which coincided with the 51st Regional Development Council Meeting held in Bellaroca Island Resort, Marinduque.

The project, called eHATID LGU, is funded by the DOST's Philippine Council for Health Research and Development (PCHRD) in partnership with Ateneo de Manila University. It aims to support LGUs with the use of an Electronic Medical Record mobile application that generates reports for the Philippine Health Insurance Corporation and Department of Health. Furthermore, the said tablet ensures a more efficient patient record system that will save time and effort for both health workers and patients.

According to project leader Dr. Dennis Batangan of Ateneo de Manila University, eHATID LGU features a dashboard for real-time visualization through charts and graphs

of the aggregated patient information in the locality for the decision making of LGUs. It also features a mayor-doctor communication system as a channel for decision-making and sharing of health information.

Dr. Batangan added that in the case of unavailable or intermittent internet connection, a health worker can use the tablet offline to input patient records and then synch the encoded information later to a government cloud facility.

The island-province of Marinduque was the first in the region to fully adopt the eHATID LGU project which targets to deploy the tablet to 450 municipal and city LGUs by the end of 2015.

The project is a spin-off from the eHealth Tablet which was piloted in ten sites two years ago. The current eHATID integrates the PhilHealth's outpatient benefit package and claims system in the software.

The eHATID LGU project is part of PCHRD's eHealth initiatives which will be tackled during the eHealth Summit on July 28 as part of DOST's National Science and Technology Week from July 24-28, 2015, at SMX Convention Center, Pasay City. (S&T Media Service)



Marinduque Governor Carmencita Reyes receives from DOST Secretary Mario G. Montejo a ceremonial eHATID Tablet during the Science Nation Tour in Mariduque. (S&T Media Service, STII)

DOST scholarships offer ray of hope for yolanda-stricken Region VIII

By Ramil T. Uy

S&T Media Service, DOST- Reg. VIII

The killer strength of super typhoon Yolanda (Haiyan) that hit Region VIII on November 8, 2013, was not enough to extinguish the fiery spirit of "Warayons," a tag for people from Region VIII - waray-waray being their native tongue or most commonly used dialect.

The whole world wept but the Warayons' fiery spirit impassioned them to stand and pick up the broken pieces left by the typhoon and start building their lives all over again.

Packing unprecedented power, Yolanda made landfall five times while crossing over the central Philippine islands, decimating entire regions on the wayside. Particularly affected were many of the poorest communities whose already difficult circumstances were even further compromised by the storm.

Mostly devastated by this super typhoon in particular were municipalities in Leyte, leaving Region VIII's capital city, Tacloban, wrecked and unrecognizable.

The storm affected four provinces and 10,436 barangays in 575 municipalities when it hit land with sustained winds of 196mph. It ripped off roofs, shattered windows, and collapsed buildings with its even stronger gusts. And it inundated coastal regions with its ferocious storm surge. It destroyed boats and fishing inputs, swallowed people and their houses, leaving majority of these completely destroyed and uninhabitable.

Based on USAID data, there were 16 million people affected by the typhoon with 6,300 deaths associated with it. There are claims, however, that the death toll reached to more than 10 million, though there is no data to prove such claim. Meanwhile, 4.1 million people were displaced and 1.1 million houses were damaged.

Government programmed a rehabilitation plan that will cover a three-year period, until 2016 to be exact.

The most affected sector was education, since almost all education institutions suffered heavy damage of their classrooms and facilities.

High school classes were gravely affected due to these damages. Hopelessness came across the faces of high school graduating students and their parents. Lurking in their minds were the questions "Makaka-kolehiyo pa ba kami? Hain daw la kami makuha pan gastos kay waray naman kalubihan ngan mauuma?" (*Can we still go to college? Where can we get money for our education when there is no more coconut and a farm to till?*)

Even the DOST Region VIII office begged off and asked for the postponement of the conduct of the Junior Level Science Scholarship (JLSS) Program, a scholarship designed for incoming junior college students, due to lack of venues to conduct the scholarship exams and the absence of regular transportation and electricity in most areas.

Revival of hope

A ray of hope lit up their hearts however, months after the Yolanda disaster. By this time, the situation had become almost normal. In July 2014, DOST VIII started a caravan on Republic Act 7687 (RA 7687) or the DOST Scholarship Program which targets poor but talented and deserving students, as well as the Merit Scholarship Program, a socialized scholarship for students whose socio-economic income is above the prescribed socio-economic indicator from the RA 7687. Both programs are implemented by DOST through one of its agencies, the Science Education Institute (SEI).

The DOST VIII scholarship unit moved around the whole region to campaign for the program and reached as far as those island municipalities and other areas not frequented by other government agencies.

As a result, Region VIII produced 5,765 takers (who took the exams) representing 40% of the national takers who numbered 14,500. The turn-out of applicants for the scholarship in 2014 generated a 51% increase from 2013 which had 3,806 takers for the same scholarship program - a tremendous increase from previous numbers generated by the program. This can be attributed to the opportunity and hope that the program offered these high school students who thought they did not have any other options for college. Surprisingly, even those municipalities that have not had any applicants for quite a long time produced their share of takers for the scholarship.

The results of the September 20, 2014 Undergraduate Scholarship Examination provided Region VIII a total of 319 passers - a 36% increase from the previous year which generated 234 passers. The new set of scholars filled up the absence of scholars in other municipalities in the region.

Now, Region VIII comprising of 6 provinces, 143 municipalities and 7 cities, has at least one scholar per municipality - the only region with such accomplishment as far as undergraduate scholarship implementation is concerned, specifically, RA 7687.

Truly a huge leap for a region seriously devastated by a typhoon of unparalleled ferocity less than two years ago. Not only did it break infrastructure and took away lives; it broke its victims' hearts as well and took away their hopes as they sensed a specter of hopelessness in the horizon.

Or so they thought. And then they learned about DOST's scholarships. Now their hearts are whole again and their hopes rekindled.

(For more about DOST's scholarship programs, visit the National Science and Technology Week on July 24-28, 2015 at SMX Convention Center, Pasay City). (S&T Media Service)

in focus

A young artist demonstrates how the Gx3 Garneth: The Original Hand Painting Multiplier Device operates during the Technology and Innovation Expo of the Department of Science and Technology's (DOST) ongoing Science Nation Tour Central Visayas leg in Cebu City. An entry to the 2015 Central Visayas Regional Invention Contest and Exhibit, the device makes it possible for the artist to paint or draw multiple original figures simultaneously, making the technology ideal for businesses engaged in the creation of original handpainted products. It consists of multiple brush holders which help the artist to control his strokes so that they have identical movements. Gx3 Garneth was invented by Engr. Nono S. Camomot of Consolacion, Cebu and is one of several inventions currently on exhibit at Science Nation Tour which runs until June 20, 2015. For more about local inventions and DOST's various technologies, visit the upcoming National Science and Technology Week from July 24-28, 2015 at SMX Convention Center in Pasay City. (Text by Espie Angelica A. de Leon/ Photo by Henry A. de Leon, S&T Media Service, DOST-STII) (Photo by Henry De Leon, S&T Media Service, DOST-STII)

