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AGT rolls on for the test

LiDAR launch

DOST for smart ASEAN

Branding DOST

Science meets Culture at the Mindanao Cluster TechFair

Shamcey Supsup

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Innovation is key

The last quarter of 2012 witnessed laudable developments in the Philippine science community in general and within the Department of Science and Technology in particular. Other major breakthroughs during the first three quarters of the year could not be easily forgotten though. Innovations were in the forms of locally developed technologies and sound services appropriate to their specific users.

Most notable of these developments were the launches of many programs and projects that were geared towards reaching out to a greater number of Filipinos. The foreseen social and economic impacts of these science-based initiatives cut across all spectra, with the expected biggest winners who are, of course, the Filipino people.

The latest to be introduced was the country's first extensive three dimensional (3D) mapping program with two aircrafts carrying state-of-the-art Light Detection and Ranging or LiDAR instruments that took off on 22 November at Clark Airbase to begin scanning the Pampanga river basin. Read up on this exciting project on page 34.

Also on that same day but in a different venue, the DOST and the growing Philippine Business Process Outsourcing (BPO) sector launched the trial version of the software called Learning English Applications for Pinoys or LEAP. More details on this project can be found on page 13.

Immediately four days after the LiDAR and LEAP launches, the country's first locally designed elevated train is now all set for testing as its two adjoining coaches arrived at the University of the Philippines Diliman. Called the Automated Guideway Transit (AGT), it is the DOST's response to the worsening vehicular traffic in Metro Manila. More on AGT on page 4.

These three major events were but some of the venues where innovations from the genius and ingenuity of Filipinos were showcased in a span of three months. Alongside these were the last two regional cluster fairs held in General Santos City and City of San Fernando in Pampanga for the Mindanao and Southern Luzon Clusters, respectively, carrying the theme "Science, Technology and Innovation: Working Together for Growth and Development" where the latest science-based innovations from the regions were displayed to the public.

For the 4th quarter issue of the The Post, locally developed technologies, inspiring individuals, and creative services and everything innovative are featured to share to the world. Surely, more things can be expected from the DOST in the days to come. For this issue, The Post features the AGT, the train of the future -- first in Diliman, then in Taguig, and hopefully the rest of the country. Ms. Shamcey Supsup also peeps in as a teaser of an exciting feature on a fashion show featuring idegenous textiles *T'nalak* and *Inaul*.

Finally, one that should be rightfully remembered was the earlier effort of the DOST that launched the highly regarded "Filipinnovation" that was established in 2007, the brand name for the Philippine National Innovation Strategy that has helped foster a culture of innovation aimed at enabling the country to become globally competitive. Synonymous to Filipinnovation is the name Fortunato T. De la Peña, DOST Undersecretay, who has been at the forefront of the network since its inception. He once said, "Filipinnovation is innovation by the Filipino for the Philippines and the global community."

Aristotle P. Carandang

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Department of Science and Technology

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S&T POST

Feature News

Disaster Preparedness

OUR COVER

The Automated Guideway Transit, one of DOST's solutions to the worsening traffic and environmental problems, is ready to roll on for test run at the UP Diliman campus. The results of the test by next year will lead to the improvement in the current design and system. Meanwhile, technology intervention led to the improvement of the production and design of the T'nalak and inaul indigenous textiles in Mindanao showcased in the Science Meets Culture Fashion Show in General Santos City featuring Shamcey Supsup.

Testing the train

"This is a way of enhancing our engineers' capabilities in transportation technology. We also want to locally fabricate the train's components to make the transportation cost-effective and sustainable."

- DOST Secretary Mario G. Montejo

By GEORGE ROBERT E. VALENCIA III
S&T Media Service, *DOST-STII*

With the arrival of its two adjoining coaches, the country's first locally-designed elevated train also called the AGT, short for "Automated Guideway Transit system," is about to roll into its scheduled test phase at the University of the Philippines (UP) Diliman campus.

The AGT is the Department of Science and Technology (DOST)'s answer to the worsening vehicular traffic in Metro Manila.

Designed by engineers from the DOST and UP, the system offers an alternative commute for city dwellers. The goal is a fully-automated and emission-free transportation capable of carrying up to 60 passengers per trip.

The AGT is a recognized mode of public transportation in many developed countries as the technology has been around for at least 30 years.

More than creating a Filipino train version, however, part of the AGT development's goal is to train local engineers to operate their own designed transport system, according to DOST Secretary Mario G. Montejo.

"This is a way of enhancing our engineers' capabilities in transportation technology.We also want to locally fabricate the train's components to make the transportation cost-effective and sustainable," Secretary Montejo added.

The AGT's testing phase in UP Diliman is crucial for its engineers to establish the train's speed and capacity; polish its mechanisms, controls, power, and stress systems; and fine-tune its troubleshooting procedures.

According to AGT Project Leader Engr. Jonathan Puerto, the test phase is scheduled to complete by June next year. Test results and recommendations will be used as basis in designing a regular-sized version of the train to be built in Taguig City, adjacent to the DOST Complex. The next AGT would accommodate up to 120 passengers, twice the UP Diliman version's current capacity.

First Filipino-developed train. The Automated Guideway Transit system or AGT is an elevated transportation developed by engineers and scientists of the Department of Science and Technology, and the University of the Philippines (UP) to address worsening traffic congestion in Metro Manila. A 465-meter concrete guideway is built inside the UP Diliman Campus to serve as test site to fine-tune the train's speed, power, controls and stress systems. The testing phase of the AGT will be finished by June 2013 and any result will be used to construct a higher-capacity elevated carrier in Taguig City. *(Photo by DOST-MIRDC)*

Meanwhile, the 465-meter guideway in UP Diliman supports the AGT at a height of 6.1 meters. It stretches from the College of Fine Arts all the way to CP Garcia Avenue and makes a 25-meter radius curve to the direction of the University Avenue where the tracks stop.

Because of their fine industrial design, the elevated coaches are now eye-catchers in the university. They are also fully-air-conditioned and spacious inside; but unlike the Manila Metro Rail Transit that plies the EDSA route or the two Light Rail Transit lines that pass through various points in Manila,the UP Diliman AGT does not have cables suspended above and along the track as its DC-electrical system is built along the guideway itself. This gives it a "cleaner" look, according to Engr. Ryan Roldan of the Project Management Engineering and Design Office (PMEDSO), the train's design team in DOST.

On one hand, the same design team also corrects people whenever they refer to the AGT as "monorail".

"The train was designed as a monorail before, but subsequent modifications from the Taguig prototype last year omitted it from the monorail category," said Engr. Elljay P. Mutuc.

He said that what differentiates the AGT from a monorail system is that it rolls on two rails instead of one; and thus, the term monorail—literally "single rail"—no longer applies to the current version. Moreover, monorails have narrower guideways with respect to their coaches' widths.The DOST-UP AGT, on the other hand, moves along two parallel bars whose distance across almost equals that of the coaches.

The Metals Industry Research and Development Center (MIRDC), the project's lead implementing agency in DOST, constructed the train's main mechanical frameworks or rolling stocks, and subcontracted local companies Miescor Builders and Fil-Asia Automotive to construct the guideway and the coaches, respectively, based on PMEDSO's design and specifications.

Meanwhile, UP has also expressed plans to conduct a study on the marketability of the Filipino AGT, according to Engr. Puerto.

One of DOST's High-Impact Technology Solutions, the first Filipino AGT is being developed also through the Department's collaboration with the UP National Center for Transportation Studies, UP College of Engineering, and National Institute of Geological Sciences.Funding the project is the Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD) under the MakiBayan Program, short for "Makina at Teknolohiya para sa Bayan"of MIRDC.

DOST-ICTO Executive Director Engr. Louis Casambre (7th from right) with telecommunications and information technology senior officials from the ASEAN region.

"Smart ASEAN" via ICT

By ROY E. ESPIRITU
S&T Media Service, *DOST-ICTO*
Photos by: TEDDY AMANTE, ANGELICA DE LEON, FRAMELIA ANONAS

Smart agriculture, smart transport systems, smart grid program, leading to "smarter ASEAN." Such smart initiatives, according to Secretary Mario G. Montejo of the Department of Science Technology (DOST), are not only happening in the Philippines, but also "around ASEAN and in other centers of innovation."

Sec. Montejo revealed his dream of a "smart ASEAN" as he spoke before telecommunications and information technology ministers and senior officials of ASEAN countries during the 12th ASEAN Telecommunications and Information Technology Ministers (TELMIN) Meeting held in Mactan, Cebu on November 15 and 16.

Montejo also took over from Myanmar as TELMIN leader while DOST Undersecretary Louis Casambre of the DOST's Information

and Communications Technology Office (DOST-ICTO) chaired the assembly of ASEAN senior officials supporting the ASEAN TELMIN.

In his opening speech, Sec. Montejo hinged the concept of a "smart society" with the emerging role of ICTs in a world being increasingly defined by how people use them.

"We may be seeing an emerging shift in ICTs manifested in directions beyond mere access to the technology to its strategic use as it becomes embedded in all aspects of life," Montejo said. "This is a shift from the so-called information society paradigm to a new one—the paradigm of a smart society."

The DOST chief further expounded on the economics of digital devices, relating that while their cost continues to plunge, their level of sophistication increases, resulting in the pervasiveness of these modern and smart gadgets in everyday lives. This scenario brings about an abundance of real time information and data which can be analyzed and processed for faster decision-making and more efficient systems management in various industries— from agriculture, health

services, and energy, to meteorology and weather, traffic management, and other governance systems. This smarter way of task performance has resulted in increased productivity, efficiency, and responsiveness in a quick and timely manner.

"Let us continue to share our experiences, learnings, and strategies that will respond to common challenges and go beyond a connected ASEAN to embody a smart ASEAN that has truly leveraged ICTs to enable the aspirations of the ASEAN people for a better future," said Sec. Montejo.

Other highlights of the two-day conference included the signing of a Memorandum of Understanding between ASEAN and the International Telecommunications Union on Joint Cooperation on ICT development in ASEAN, the 1st ASEAN ICT Awards, and the signing of the Mactan–Cebu Declaration between ASEAN member states to advance ICT cooperation and integration in ASEAN, and strengthen DOST's commitment to socio-economic development through ICT.

The ASEAN Telecommunications and ICT Ministers from the ASEAN member states and dialogue partners from China, India, Japan, Korea, the European Union, and the International Telecommunications Union discussed their respective countries' ICT in order to have a clearer view of the region's progress in accordance with the ASEAN ICT Masterplan, which is looking at having an integrated ASEAN by 2015. At the same time, the delegates identified plans for 2013.

DOST-ICTO is the Philippine government's lead agency on ICT related matters. Its primary thrusts are in the ICT Industry Development, eGovernment, ICT policy development, Internet for all and cybersecurity.

BIMP connectivity, ASEAN progress

By FRAMELIA V. ANONAS
S&T Media Service, *DOST-STII*

The cooperation in the sub-region of Brunei Darussalam-Indonesia-Malaysia-Philippines of the East ASEAN Growth Area (BIMP-EAGA) in the area of information and communications technology (ICT) has opened many opportunities that would spur social and economic development in the area, according to a report during the Informal Telecommunications Ministers (TELMIN) Meeting recently held in Cebu City.

"Collaboration in ICT , along with sharing of best practices, and working together in projects will benefit BIMP-EAGA and the entire ASEAN," said Department of Science and Technology Secretary Mario G. Montejo, chair of this year's TELMIN.

The BIMP-EAGA priority ICT projects in the area include the Rural ICT Outreach Program, a submarine cable formally called the BIMP-EAGA Rink, and the Intelligent Clearance Identity (iClid) Systems.

The Rural ICT Outreach Program is a collaboration between Brunei Darussalam and the Philippines through Infocom Federation Brunei and the Philippine-based EA Trilink. The Program consists of providing local communities with training on ICT to address the digital divide.

"To date, the Philippines has identified 30 pilot sites in the Autonomous Region of Muslim Mindanao (ARMM) to implement the project," Sec. Montejo said in a report.

The Technical Education and Skills Development Authority in ARMM is currently being eyed to serve as the colocation of the network, according to Montejo.

The BIMP-EAGA Rink aims to provide infrastructural connectivity in the sub-region to meet the high demand for ICT among businesses and residents in the area. Sabah and Brunei Darussalam through a Memorandum of Understanding are working together to promote governance, cooperation and development

DOST Secretary Mario G. Montejo, chair of this year's Telecommunications Ministers Meeting recently held in Cebu City.

designed to assist ICT and multimedia initiatives. Along with the private sector, the two countries intend to collaborate and provide hybrids of communication infrastructure to enable high-speed international capacity access and service roll-out between said countries.

Meanwhile, Brunei Darussalam and Malaysia through private firms Zimac Silicon Technologies Sdn. Bhd. and Sarawak Information Systems Sdn. Bhd. respectively signed an MOU to facilitate crossborder trade in line with the single window concept. This initiative would require only a single location to submit regulatory documents, cutting time and cost for traders who previously had to deal with many agencies before obtaining clearance and permit in moving their cargoes across national or economic borders.

BIMP-EAGA was conceptualized in 1994 as joint strategy of participating governments to promote social and economic development in the more remote territories within the BIMP region. Particularly, the involved governments will provide a framework that will facilitate a unified business climate through harmonized public policy. The governments will also make available adequate physical infrastructure to link businesses in the sub-region and improve their access to regional and global markets. Further, BIMP-EAGA will also make sure that it will facilitate an effective commercial infrastructure by providing avenues for financing, information, and skills to improve entrepreneurial capacity and capability.

BIMP-EAGA has identified four priority areas which it calls "strategic pillars" that give focus to various sectoral initiatives. These include enhancement of connectivity within and outside BIMP-EAGA, establishment of the sub-region as food basket for ASEAN and the rest of Asia, promotion of BIMP-EAGA as the premier regional tourism destination, and ensuring the sustainable management of the environment.

IT breakthroughs honored in 1st ASEAN ICT Awards

By ANGELICA A. DE LEON
S&T Media Service, *DOST-STII*

Representatives from HERSA Animation (Indonesia, Bronze Award), Tain Aik Keong/Agmo Studio Sdn Bhd (Malaysia, Silver Award) and LAO IT Development Co., Ltd (Lao PDR, Gold Award or Grand Prize) with their trophies and certificates as finalists of the 2012 ASEAN ICT Awards Digital Content Category. With them in photo are Department of Science and Technology Secretary Mario G. Montejo (4th from right) and Lao People's Democratic Republic's IT Minister (5th from right).

The first ASEAN Information and Communications Technology Awards (AICTA) honored its first batch of awardees on the opening day of the 12th ASEAN Telecommunications and Information Technology Ministers (TELMIN) meeting at the Shangri-La Mactan Resort and Spa in Mactan, Cebu last November 15.

As part of the region's strategic thrusts in the ASEAN ICT Masterplan (AIM 2015), AICTA aims to identify the region's most innovative and relevant projects in ICT and give recognition to the organizations responsible for creating and implementing them.

The awarding ceremony was held as part of the activities for the 12th ASEAN TELMIN.

Department of Science and Technology (DOST) Secretary Mario G. Montejo chaired the annual event which gathers ICT ministers and senior officials from the 10 ASEAN member states, as well as dialog partners from China, Japan, India, Korea, the European Union, and the International Telecommunications Union. Undersecretary Louis Casambre of the DOST's Information and Communications Technology Office (DOST-ICTO), chaired the assembly of ASEAN senior officials supporting the ASEAN TELMIN.

Acknowledging the critical role of ICT in the region's socio-economic development, Sec. Montejo cited how the sector has significantly driven business activities in the Philippines to contribute to economic revitalization.

"The Philippines' own ICT-driven business process outsourcing industry currently accounts for more than five percent of the country's gross domestic product and is growing exponentially. This makes the Philippines the world's preferred contact center destination and creates employment for more than half a million Filipinos," said the DOST Secretary.

The first award handed out was for the Public Sector Category, which NCS of Singapore won with its e-Visitor Programme, an integrated suite of electronic devices providing online immigration services.

Representatives from Brandtology (Singapore), FPT Information Systems (Vietnam), and SecureMetric Technology Sdn Bhd (Malaysia) with their trophies and certificates as finalists of the 2012 ASEAN ICT Awards Private Sector Category. FPT Information Systems and SecureMetric Technology tied for the Gold Award or the Grand Prize while Brandtology copped the Bronze Award. With them in photo are the IT Ministers from Vietnam (3rd from right) and Malaysia *(2nd from right)*.

Vietnam's FPT Information System tied with Malaysia's SecureMetric Technology Sdn Bhd to win the top plum under the Private Sector Category. FPT Information System's eHospital product gained the nod of the judges with its management processes that allow hospital facilities to improve the quality of examinations and treatments and strengthen management efficiency across all departments. Meanwhile, SecureMetric Technology's winning product, SecureToken ST3 is a microprocessor chip-based USB token that integrates with powerful cryptographic technology to provide greater security for sensitive data, information, and system.

Under the Digital Content Category, Lao IT Development Co., Ltd from Lao PDR bagged the grand prize with its e-Corner Online Magazine, an e-Book in the form of a flash file with exciting interactive features and which may be opened using a Flash Player or web browser on any operating system.

Myanmar Credent Technology topped the field in the Corporate Social Responsibility Category. Its Geospatial Technology Training Courses for Environmental, Disaster Risk Preparedness and Management are instructional tools for the effective utilization of geospatial technologies, applications, and geospatial data for environmental work.

Meanwhile, Indonesian firm Tiket.Com/PT.Global Tiket Network showed its potential by winning the top prize under the Start-up Category. With their breakthrough ticketing system, the company is the first to do bookings in real time.

A total of 73 nominations from all 10 ASEAN member states were submitted to AICTA 2012, expected to be a an active breeding ground for groundbreaking ideas, networking, and collaborations in the ICT arena.

"I am hopeful that this event motivates and inspires industry professionals and e-government practitioners to excel in their respective fields and I am looking forward to seeing new set of awardees for the ASEAN ICT Awards next year," stated Sec. Montejo.

The first batch of honorees of the 1st ASEAN ICT Awards with Department of Science and Technology Secretary Mario G. Montejo (seated, 4th from right) and other Information Technology ministers from member nations of the ASEAN region.

RP-SoKor ICT partnership to boost biz, e-Gov services, says DOST chief

By GEORGE ROBERT E. VALENCIA III
S&T Media Service, *DOST-STII*

The Philippines through the Department of Science and Technology (DOST) partnered with Asia's Information and Communication Technology (ICT) champ South Korea through a Memorandum of Understanding (MOU) signed by DOST Secretary Mario G. Montejo and South Korean Minister of Public Administration and Security (MOPAS) Hyung-Kyu Maeng recently in DOST Complex, Taguig City.

The signing of the MOU formalizes and declares a five-year alliance that especially benefits the country's development of ICT policies, business sector, and e-government services.

"The Republic of Korea in a recognized global leader in ICT, which makes the MOU on Cooperation in ICT an important endeavor," said DOST Secretary Montejo.

"Koreans are known in the world for their high level of ICT access, use, and skills," he added, in reference to the latest report by the United Nations (UN) International Telecommunication Union.

ICT refers to all facets of telecommunications and computers systems that enable people and organizations to access, manage, and transmit information.

"Korea is [also] number one in the 2012 e-Government Survey of the UN. We certainly have much to learn from this country's experience especially in the area of e-Government," said Engr. Denis Villorente, head of the National Computer Center, the lead agency for e-Government implementation in the Philippines.

e-Government pertains to the government's use of ICT to facilitate its operation and make the delivery of information and services more efficient. The MOU provides the Philippines an opportunity to share with South Korea's best practices, along with information exchange, technical assistance, and regulatory know-how for e-Government building. The ultimate goal of the partnership is to create effective management systems and interoperability framework for all and within government entities and to facilitate public information sharing.

The Philippines and South Korea, now united in ICT. DOST Secretary Mario G. Montejo *(right)* signed the Memorandum of Understanding on Cooperation in ICT with the Republic of Korea Ministry of Public Administration and Security. South Korean Minister Hyung-Kyu Maeng *(left)* visited the DOST Office last November 19 to seal a five-year partnership that "pursues cooperation and synergies towards common goals in the field of ICT." The alliance will work in the areas of e-Government building; establishment of national and local ICT policies and ICT framework for the business sector; technical and personnel exchanges and joint studies in ICT; and mitigation of the adverse effects ICT *(Photo by Ceajay Valerio; Text by George Robert Valencia III, S&T Media Service, DOST-STII)*

Beyond e-Governance, the bilateral partnership mainly seeks for both countries to "pursue cooperation and develop synergies towards common goals in the field of ICT."

Foremost objective of the collaboration is to enhance the Philippines' ICT master plan and policies, including those suited to the local government units (LGUs).

The cooperation also advances the setting-up of an ICT framework for the country's business sector, which underscores support for public information sharing; the sector's use of efficient management systems; facilitation of joint projects involving public-private partnerships in ICT, services, and research and development (R&D).

Also, capacity building through technical and personnel exchanges (in the form of volunteer programs, seminars, and workshops) and joint studies in ICT are being pushed, including activities that narrow the domestic digital divide in the country.

Further, the alliance works to address or mitigate the adverse effects of ICT, such as hacking, privacy, and information security policy, among others.

Front-liners to these endeavors are the DOST's Information and Communications Technology Office (DOST-ICTO) for the Philippines and the National Information Society Agency (NIA) under MOPAS for the Republic of Korea.

According to Engr. Villorente, the MOU signed in May 2012 between DOST-ICTO and MOPAS-NIA resulted in two significant outputs, with technical assistance provided by the South Korean Government. These are the Philippine e-Government Master Plan for 2014-2016 and feasibility study on the Philippine Government Integrated Data Center to be released this year.

And while all this willingness of the Korean Government to help the country in the area of ICT might seem to a few an act of altruism, Engr. Villorente said that the people of the Republic of Korea remember the Philippines for being among the first nations to respond during the Korean War of the 1950s.

Formal Turnover of LEAP CDs. The formal launching of Learning English Application for Pinoys (LEAP) trial version was highlighted by the turnover of the CDs from DOST to its partners and various stakeholders led by Rowena Cristina L. Guevarra, PCIEERD executive director (far left) and Dr. Susan P. Festin, ISIP 7 project leader (2nd from left). With them in photo are (from left) Dr. Rose Marie Teves-Pinili of Negros Oriental State University, Arturo Tuazon of the Department of Education (DepEd), Anasol Reyes also of DepEd, Van Leynes of the Department of Trade and Industry-Board of Investments, Dr. Maria Teresita Semana of the Commission on Higher Education, Susan Vidal of the Business Processing Association of the Philippines, and Dr. Aura C. Matias, Dean of UP Diliman College of Engineering.

Speak better English via this DOST-funded software

By ANGELICA A. DE LEON
S&T Media Service, *DOST-STII*

The Philippine call center sector, called the sunshine industry a few years back, is set for even brighter days ahead as it receives a much needed boost with the release of a language training software that aims to teach Juan dela Cruz how not to mix his Fs and Ps and speak better English.

The Department of Science and Technology (DOST), through its sectoral council, the Philippine Council for Industry, Energy and Emerging Technology Research and Development (PCIEERD), in partnership with the University of the Philippines Diliman, launched the trial version of the software, called the "Learning English Application for *Pinoys*" or LEAP last November 22 at the Eastwood Richmonde Hotel in Quezon City.

Program LEAP is categorized under Project 7 of the ICT for Education Inter-disciplinary Signal Processing for *Pinoys* Program, or ISIP, which is part of DOST's Engineering Research and Development for Technology initiative.

A computer-based stand-alone training system, LEAP is a supplementary tool to prepare high school and college students for the call center industry in a bid to help the country regain its footing as a stronghold of English language competency and push it further into the forefront of the global BPO industry.

"DOST supports this project in the hope of raising the level of skills and competencies of Filipinos working in the BPO industry or seeking employment in the BPO industry or any other industry for that matter," said DOST Secretary Mario G. Montejo in his keynote speech read by Dr. Rowena Cristina L. Guevara, PCIEERD executive director.

During the launch, Dr. Susan P Festin, ISIP 7 project leader, cited a study by the Social Weather Station which indicated that Filipinos' English language ability has been sliding since 1993. Another study, undertaken in 2005, found that the hiring rates of IT-BPO companies in the country were only four to six percent, with poor English skills cited as a major drawback.

Earlier, Dr. Guevara delivered the welcome remarks at the launch attended by representatives from the Department of Education (DepEd), Commission on Higher Education (CHED), Business Processing Association of the Philippines (BPAP), and the Department of Trade and Industry-Board of Investments (DTI-BOI), among others. "We have realized that science and technology, and the number of people who are doing science and technology, are very good indicators of progress," said Dr. Guevara.

The newly launched trial version constitutes half of the LEAP software covering a 10-module Language Training Program. The Linux and Windows-based program tackles the groundwork for English fluency—from tenses, pronouns and prepositions, to idioms and other basic topics related to grammar and vocabulary.

The other half of the software features its Speech Training Program which will tackle Filipinos' common speech lapses, among others.

The launch was highlighted by a demonstration and presentation of the software courtesy of Dr. Festin and the turnover and distribution of LEAP CDs. Demo computers were also available to allow guests to try out the trial version and have a glimpse of LEAP's Speech Module.

Prior to the launch, the software underwent usability testing in various schools including the Bulacan State University and Negros Oriental State University, among others.




science meets CULTURE

By FRAMELIA V. ANONAS
S&T Media Service, *DOST-STII*

T'NALAK AND INAUL ON THE FASHION RAMP

This is your non-traditional traditional fashion show. Yes, the Science Meets Culture catwalk in October at KCC Mall in General Santos City featured designs based on the tradition of T'bolis and Magundanaons, and clothing made of traditional T'nalak and inaul. But the technology intervention for each piece made the fashion show a unique, untraditional display of cultural heritage.

T'nalak, produced by the women of the Mindanao-based T'boli tribe, is a tie-dyed cloth made from abaca. According to tradition, the ladies who weave this cloth receive their talent from their forebears and conceptualize designs in their dreams. This is why they are lovingly called as "dreamweavers."

Because the designs are believed to have been handed down by ancestors, the *T'nalak* is highly respected by the T'bolis for its spiritual meaning. It is in fact one of the traditional properties that brides and grooms exchange during their wedding, parallel to the wedding ring of more modern societies.

Meanwhile, inaul is Magindanao's famous handwoven fabric popularly used as "malong" or "sarong", the former a tube-like piece and the latter a wrap, that can be worn and used many ways. Inaul captures the symbol of distinction and royalty among Maguindanaons.

"Our culture serves as the pillar of our character and true identity," said Dr. Zenaida Laidan, regional director of the Department of Science and Technology - Regional Office 12.

This is the rationale behind the unique fashion show concept, Dr. Laidan explained. "It is a showcase of Filipino innovation while showing pride and honor our own cultures."

Intricate, spiritual manual process

Creating and using T'nalak is a process fraught with T'boli tradition and respect to their ancestors. It is such a laborious process that spans quite a range of skills that T'boli women learned while growing

Shamcey in S&T-assisted Dreamweave. GenSan- raised beauty queen Shamcey Supsup wearing a locally- designed T'nalak-accented gown struts on the catwalk in a science and culture fashion show highlighting traditional costumes and fashion accessories assisted by the Department of Science and Technology. Launched as "Dreamweave", this country brand uses S&T interventions in designing and creating contemporary fashion items from traditional T'nalak and Inaul textiles into casual, semi-formal and formal wears, as well as bags and other accessories. In creating this brand, DOST has full assistance in the process including dyeing, pattern-making, weaving, branding, labeling, and research backup, according to DOST 12 Regional Director Zenaida P. Raof- Laidan The fashion show is one of the highlights of the 2012 MindaDOST Cluster S&T Fair held in KCC Mall, General Santos City 10-14 October 2012. *(S&T Media Service)*

Regional Director Dr. Anthony C. Sales (Regional Office No. XI), Regional Director Dr. Zenaida P. Hadjiraof-Laidan (Regional Office No. XII), Miss Universe 2011 third runner-up Shamcey Supsup, and DOST-ARMM Secretary Fradzkhan K. Ilaji.

up. Manual processing entails several steps, starting with stripping fiber from abaca, cleaning, drying, and then splitting into strands. The carefully selected strands are then hand tied then rolled into balls, ready for dyeing.

The fibers are then stained with natural vegetable dyes produced by the T'boli weavers themselves. After the fibers are coated in tones of red, brown and black, the T'nalak is woven into a design. In some instances, a single unique weaving takes several months to complete.

The inaul, meanwhile, is a handwoven fabric whose two ends are sewn together. Unlike most malongs in the market that are made of cotton and crafted by machines, the inaul malong is handloomed and made of either silk or cotton. The design of the fabrics vary, with some interwoven with gold threads, and reflect the culture of Maguindanaons.

Working on an inaul fabric is also a long process, as it often takes about two days to produce a meter of simple table runner and up to one week to finish a well-designed runner made of colored threads. Malongs take a longer time, depending on the intricacy of the design.

Science meets culture

With DOST's intervention through research and development, technology, and technical consultancy, the T'nalak and inaul fabrics have become more available. Now aided with technology, producing the fabrics has become a faster process with the quality much improved. Thus, the fabrics are now ready for the international market as they are being gradually introduced via traditional Filipino formal wear, modern fashion accessories, and even contemporary apparel.

The Science Meets Culture Fashion Show, conceptualized by DOST-XII as the highlight of the Mindanao Cluster S&T Fair in October, served as the appropriate venue in launching the brand "Dreamweave" to demonstrate that the intervention of science and technology improves the design development of fashion clothing and accessories. Particularly for "Dreamweave", DOST provided full assistance including dyeing, pattern-making, weaving, branding, labeling, and research backup.

The show effectively showcased the advantages and benefits of science and technology intervention in preserving and improving cultural traditions. It also served as a window into the fun, creative, and artistic side of S&T-mediated enterprises. The colorful fabrics, intricate designs, and funky accessories and fashion pieces are products of research and development, an area considered by some people as "rocket science" because of the long and tedious process of the scientific study.

Moreover, the fashion show launched the careers of several budding designers whose creativity for T'nalak and inaul are limitless.

The show started with several traditional garments that gradually evolved into casual items and gowns, and then into high fashion pieces. There was also a showcase of bridal pieces for both bride and groom that looked perfect on the catwalk and more so in a solemn wedding ceremony.

Then as the highlight of the show, the GenSan-bred Shamcey Supsup, third runner-up in the 60th Miss Universe pageant, stole everyone's attention as she regally glided on the catwalk. Wearing a locally-designed silk gown with golden fibers accented by T'nalak designs at the hem, Shamcey looked like a T'boli fairy, if there was such a thing. Her long flowing




Photos by : Teddy Amante and Framelia V. Anonas

gown with long scalloped transparent sleeves made of golden thread was adorned with gold beads shaped into a peacock with a long willowy tail. A strip of golden ruffles ran along the backside of the gown, making each graceful stride of Shamcey a special sight to see.

After her number, the spotlight turned to several fashion accessories and bags made in the tradition of T'nalak and inaul. The refreshing designs put forward more exciting potentials for these pieces to make a crack into the mainstream fashion market.

Laidan explained that through the fashion show, DOST offered both enlightenment and entertainment in the Department's bid to promote the different cultures of Mindanao as portrayed in the showcase of traditional costumes and cultural dances.

"In the same manner, we hope to also showcase the significance of science and technology in preserving, protecting and promoting culture through the DOST's interventions," she said. "Similarly, we intend to promote and support our small and medium enterprises (SMEs) engaged in weaving local textiles."

"Our culture serves as the pillar of our character and true identity. Together, let us embrace the benefits of science and technology and innovation while taking pride and honoring our own cultures," she added.

Gearing up Mindanao for BPO industry

By ANGELICA A. DE LEON
S&T Media Service, *DOST-STII*

Qualified workers for an industry as dynamic and constantly evolving as ICT-BPO are indeed abundant in Mindanao region.

Mindanao is getting ready for the business process outsourcing (BPO) industry and information and communications technology (ICT) experts are looking into possible areas that the region can actually make a dent.

For Adrian Flores, chief executive officer of Davao-based software company X2 Wave Corporation, the future lies in mobile computing and the region's hopefuls should train their efforts towards this area. Mobile computing refers to the use of a portable computing device that can be used in changing location. This kind of computing involves mobile communication, mobile hardware, and mobile software.

Meanwhile, another panelist, Alvin Juban of the Game Development Association of the Philippines (GDAP), underscored the rising popularity of the game development industry which is presently creating a dent locally.

"Game developers are a special breed," Juban said. "This is because we have a skillset that combines information technology and art, which is not easy. Also, the work involves a combination of physics and math," he continued.

According to him, there were more people at the Abreeza Mall that afternoon than there are game developers in the Philippines due to the high level of expertise required by the job. Yet, the industry posted revenues of almost US$9 million in 2010 with limited human resources numbering to about 2,500 only. GDAP is targeting a total of 10,000 workers by 2015, said Juban.

The panelists agreed that in general, qualified workers for an industry as dynamic and constantly evolving as ICT-BPO are indeed abundant in the region. According to Benjie Marasigan of the Animation Council of the Philippines, though the market is both capital and labor intensive, Mindanao including Davao City, should develop its own domestic market. The panelists were one in saying that to succeed in this endeavor, Davao's ICT workforce should sustain their passion and unite for this common goal. The city, a major growth area, has been named number one in the list of Top Ten Next Wave Cities of the Philippines.

DOST drives innovation for Davao's business process outsourcing (BPO) industry. Alejandro P. Melchor, deputy executive director of the Department of Science and Technology's Information and Communication Technology Office (DOST-ICTO) (third from right) and Dr. Warlito Vicente (middle), chair of the Regional Health Research and Development Consortium-XI (RHRDC-XI) lead the ribbon cutting ceremony that signals the opening of Innovation Expo 2012 last November 9 at the Abreeza Mall in Davao City. A project of DOST-ICTO and ICT Davao, the three-day event carried the theme "Enabling Innovation in Healthcare, Creative, and ICT Industries." Also in photo are (from left) Aristotle P. Carandang, chief of DOST-STII's Communications Resources and Production Division; Jerry Durant of International Institute for Outsource Management; Mila T. Segovia, assistant regional director for administration of the Department of Social Welfare and Development; Lizabel G. Holganza, president of ICT-Davao; and Atty. Samuel Matunog, chief executive officer of Segworks, a leading player in southern Mindanao's software industry. Participants to the event include IT product developers, vendors, and BPO service providers, among others, showcasing the Filipinos' potential and high level of expertise in ICT and its pivotal role in the advancement of the country's health and BPO sectors. The DOST-led Innovation Expo 2012 was a collaborative venture with RHRDC-XI, Department of Trade and Industry, and key players in the region's BPO industry. *(Photo & text by Angelica de Leon, S&T Media Service)*

Affirming X2 Wave Corporation's support for Davao City as a possible ICT hub, Flores revealed that the company has already lined up various initiatives geared toward harnessing the potentials of Davao's workforce and existing IT infrastructure.

"Harnessing the Potential of Mindanao's ICT-BPO Industry" was just one of the various activities and segments of Innovation Expo 2012 held last November 9-11 at Abreeza Mall in Davao City. The Expo aimed to showcase Filipinos' potential and high level of expertise in ICT and its pivotal role in the advancement of the country's health and BPO sectors. Other activities included an ICT exhibition, Healthcare R&D Expo, and other relevant discussions. Information technology product developers, vendors, BPO service providers, medical professionals, and students among others, attended the event.

Winners of the Health Research Competition at the Innovation Expo

ORAL HEALTH RESEARCH COMPETITION - PCHRD FUNDED RESEARCHES (Davao Medical School Foundation Inc.)

First Place
"A Prospective Randomized Double-blind Controlled Trial of the Effect of *Centellaasiatica* Cream and Silver Sulfadiazine on Acute Superficial Wounds of Patients at Southern Philippines Medical Center" by Charlie Clarion et.al from DMSF

Second Place
"Acute Toxicity Dose and Effective Dose of Calabash (*Crescentiacujete*) Decoction as a Hypoglycemic Agent in Alloxan-induced Hyperglycemic Rabbits" by SittieJibrailynAmilhasan from DMSF

Third Place
"Acute Toxicity Dose of Chayote (*Sechiumedule*) Leaf Extract in Mice and Effective Dose (ED 50) in Lowering Serum Uric Acid in Pyrazinamide-induced Hyperuricemia in Rabbits" by Francis Gerwin U. Jalipa from DMSF

POSTER EXHIBIT CONTEST - HIGH SCHOOL CATEGORY

First Place
"Alcohol Detecting Car Switch" by Abegail Faye C. Alcala, Cristine Joy B. Cabaguio, Zenn Marie A. Cainglet, Quim B. Berdos, and Jana RocellDela Rosa, with Kristine Hope D. Cagurol (adviser) from the Pablo Lorenzo National High School

Second Place
"Optimization of Pectin Extraction from *Duriozibethinus* (Durian) Rind and its Biosorption Ability on Copper in Aqueous Solution" by Camille A. Casas, Mary Rose E. Catalbas, and Maria Katrina M. Mata with Michael A. Casas (adviser) from the Philippine Science High School

Third Place
"Isolation of Microbes from Select Packed Fruit and Vegetable and the Biological Activity of *Chromolaenaodorata* (Hagonoy), *Peperomiapellucida* (Pansit-Pansitan), and *Mimosa pudica* (Makahiya) Leaf Extracts on the Isolates" by Josue P. Nituda, Virgel B. Lee, and Limuel T. Morales, with Jim Boy P. Pasia (adviser) from the Daniel R. Aguinaldo National High School

POSTER EXHIBIT CONTEST - UNDERGRADUATE CATEGORY

First Place
"Development of Culture Medium Using Banana *Musa acuminata* balbisiana Fruit Peel and Pulp as Nutrient Source" by Lhinny Pearl Ago, GharenBano, Christine Baquiran, and Iris Insoywith Mary Jane G. Barluado (adviser) from the University of the Immaculate Concepcion

Second Place
"Determination of Mercury in the Blood Samples of Employees from Selected Small-Scale Mining Industries in Barangay Limbo, Maco, Comval Province" by Dency Mae V. Racacho, Gilroy S. Rosalinda, Jhuana Mae S. Libumfacil, and Vanessa Jan O. Barrete with Annabelle A. Callano (adviser) from the University of the Immaculate Concepcion.

Third Place
"Determination of the Nitrite Contents as a Food Preservative in Three Tuna Products from the Selected Branded and Homemade Producers in General Santos City" by Lloyd Jason H. Gualvez and Judy S. Manliguis with Venchie C. Badong (adviser) from the University of the Immaculate Concepcion

POSTER EXHIBIT CONTEST - GRADUATE/CREATIVE CATEGORY

First Place
"Anti-glycation Effects of *Asparagus officinalis* as an Adjunct Treatment for Metformin-Treated Individuals with Non-insulin Dependent Diabetes Mellitus" by R. Pizarro; B. Samanodi; M. Samson; A. Santamaria; M. Solidum; J. Superioridad; J. Tan; X. Tocao; C. Ubaldo; M. Tagle, MD; H. Nartatez, MD; G. Tupas, MD, DPPS; M.E. San Juan, MS Pharm, MS Biomed, FPGEC from the Davao Medical School Foundation, Inc.

Second Place (photo is same with no. 1 – representative) "A Randomized Double-blind Study on the Safety and Effects on Platelet of *Euphorbia hirta* (Tawa-Tawa) Tea Bag Preparation on Healthy Volunteers" by A.M. Singanon; E. Asebe-ros, C. Vargas, J.V. Yangyang, A. Ymbong, L.A. Yumang, M.B. Viado, F.M. Villano, H. Nartatez, MD, M.E. San Juan, MS Pharm, MS Biomed, FPGEC, M. Tagle, MD, G. Tupas, MD from Davao Medical School Foundation, Inc.

Third Place
Prevention of Common Drug-Drug Interactions of Oral Fluoroquinolones with Commonly Prescribed Medications Containing Divalent, Trivalent cations in the Philippine Hospital Setting by Ferdinand Z. Ribo, RPh and Annabelle A. Callano, RPh from the University of the Immaculate Concepcion

ORAL HEALTH RESEARCH COMPETITION - HIGH SCHOOL CATEGORY

First Place
"Effects of Nitrogren Fixation and Distribution Through Piping System by Legumes (Peanut) to Okra Plants (*Abelmoschusesculentus*)" by Melzar R. Galicia, Jr.with Rex F. Cañete (adviser) from the Colegio de San Ignacio

Second Place
"Antimicrobial Activity of the Skin Mucus Extract fromParrot Fish on *Escherichia coli* and *Staphylococcus aureus"* by Edgar Josef P. Balino, RethEiric A. Tizon, and John Carl C. Avila with Jim Boy P. Pasia (adviser) from the Daniel R. Aguinaldo National High School

Third Place
"Antibacterial Properties of *Allium sativum* (Garlic) and Zingiber officinale (Ginger) Crude Extracts in Liquid Soap" by Jerome Vincent S. Ferraris, GeaBrellia J. Jayson, and Rissa Marie Grace M. Quindoza with Michael A. Casas (adviser) from the Philippine Science High School

ORAL HEALTH RESEARCH COMPETITION - UNDERGRADUATE CATEGORY

First Place
"Resistant Starch Content of Corn Meal, Banana Flour, Sago Flour and Some Foods Prepared from These" by Hannah Jean V. Esteban andRogine Joy F. Ceballos with Dr. Dulce M. Flores (adviser) from the University of the Philippines-Mindanao

Second Place
"Isolation and Identification of Oil-Degrading and Lead Bioaccumulating Bacteria and the Degree of Degradation/ Bioaccumulation in COACO Harbor, Sasa, Davao City" by B. Bacus,VillPatrick M. de Leon, Rae Kristine E. Desabelle, May Amor C. Gadayan, and Anthony B. Pascasio with Mary Jane G. Barluado (adviser) from the University of the Immaculate Concepcion

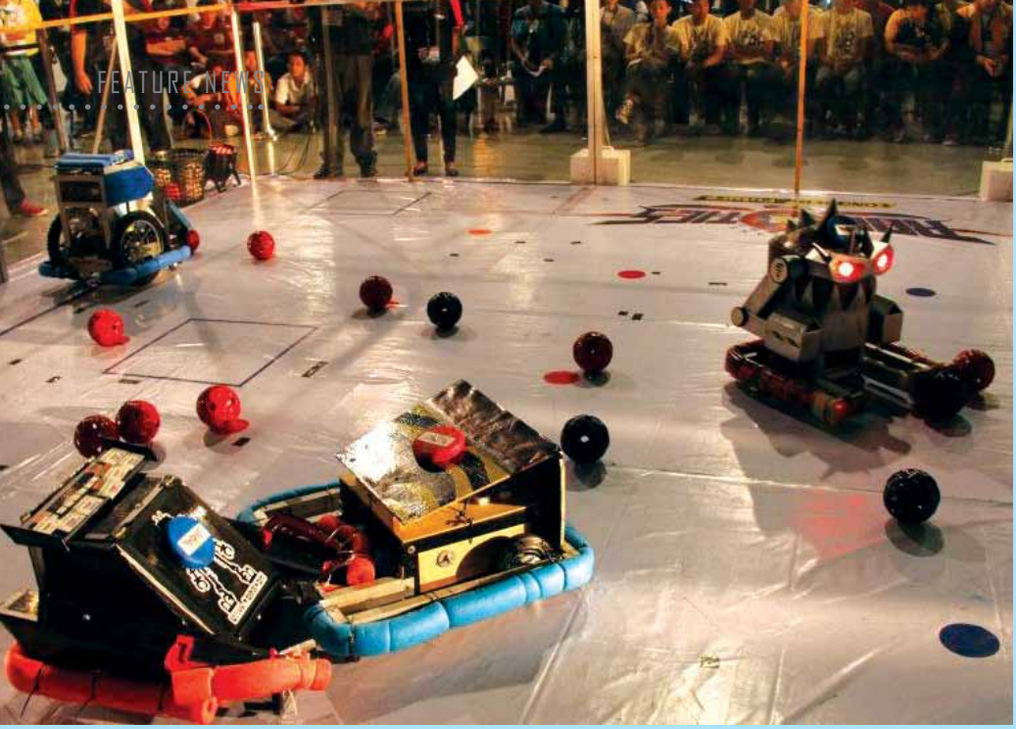
Third Place
"Anticoagulant Activity of Malunggay (*Moringaoleifera*), Oregano (*Coleus aromaticusBenth*) Leaf Extracts, and Kamias (*Averrhoabilimbi*) Fruit Juice on Human Blood Sample" by Angellie M. Fernandez; Julidette B. Sapilan; and Sr. Maria Lydia Y. Sarpong, RVM; with Avee Joy B. Dayaganon, RMT, MSMT (adviser) from the University of the Immaculate Concepcion

ORAL HEALTH RESEARCH COMPETITION - GRADUATE/CREATIVE CATEGORY

First Place
"Natural Lovastatinfrom Red Yeast Rice (Angkak): A Possible Alternative for Statin Drugs" by Dulce M. Flores, MitchellRey M. Toleco, and Abby Jan D. Aguilos from the University of the Philippines-Mindanao

Second Place
"Nocturnal Bending Brace Made of Fiber Glass Cast in the Treatment of Idiopathic Scoliosis Treated in Southern Philippines Medical Center: A Retrospective Cohort Review" by Dr. Luigi Andrew F. Sabal; Dr. Gilbert E. Cauilan, FPOA; and Dr. Jeremiah R. Morales, FPOA from Southern Philippines Medical Center

Third Place
"Risk Factors for Acute Kidney Injury among Children with Dengue Hemorrhagic Fever Admitted at PICU using pRIFLE Criteria: A Pilot Study" by Dr. Diana M. Dadia and Dr. Michael T. Manalaysay (co-author) from the Davao Doctors Hospital



When robots slug it out

By ALLAN MAURO V. MARFAL
S&T Media Service, *DOST-STII*

FOR THE second year in a row, the Science Education Institute of Department of Science and Technology (DOST-SEI) and its partner, the Nido Fortified Discovery Center, brought together electrifying innovation and sports action in one battle arena that featured machines pitting against each other.

The battle involved 31 robotic creations of high school students from Metro Manila and nearby provinces that vied in a test of skills and for the supremacy of the one and only varsity robotics tournament in the country, the 2012 Tagisang Robotics: Design, Build and Play Competition.

Emerged as this year's winner is the Blue alliance composed of Bangkal High School, Tibagan High School and Makati Science High School toppling over the Red Alliance composed of Rizal National Science High School, Manila Science High School and Benigno National High School.

The Blue alliance shone at the final stage of the tournament with the score of 2-1 and took home the championship plus P150,000.00 cash prize, a trophy and silver medals, while their coaches received P30,000.00.

The winning alliance was decided based on the total score, minus deductions due to committed violations.

Held at SMX Convention Center last November 22-23, 2012, this tournament featured robots playing Filipino's most loved sports, football and basketball.

The competition is played between two alliances composed of three teams tried to score buko (coconut), milon (melon) and pakwan (watermelon) balls into their opponent's goal.

The white-painted buko ball is equivalent to a single point, while the milon and pakwan balls score five and 10 points respectively. Each alliance can only shoot two pakwan balls in a match. In at least 30 seconds of each game, an alliance can capture an opponent's milon ball and exchange it for a pakwan ball. The balls should only be shot during the last remaining 30 seconds.

Meanwhile, Benigno S. Aquino National High School was hailed as Best Team after getting the highest points during the qualifying round of the tournament and received P100,000.00 cash prize, a trophy, and gold medals while the team coach received P30,000.00.

Other recipients of special awards were Valenzuela Science High School for Best Blog, and Caloocan National High School as Most Popular Team and Most Popular Robot. Both winning teams were determined by the total of Facebook "likes." Meanwhile, Victorino Mapa High School was chosen as Rookie of the Year after getting the highest win-loss record among the 10 new participating schools. Malayan High School bagged the Best Engineering Design award.

The Tagisang Robotics aims to promote robotics among young Filipinos and encourage them to pursue studies and careers in engineering and science.

DOST-SEI Director Filma G. Brawner said in her opening remarks that Tagisang Robotics is one of the innovative ways to promote S &T to people and to boost our roster of professionals.

"We hope that, aside from the prizes and the learning that got from this activity, we were able to instill in you the value of S &T, and your value as the future players in nation-building," Director Brawner told the participants.

"Surely, we would be thrilled if all you students go into science and engineering after experiencing the fun in science through this robotics competition," she added.

Green signs for biotechnology-based industries in PH

AGHAM Party-list Representative Angelo Palmones

By MHEDA G. GARCIA
S&T Media Service, *DOST-STII*

The biotech-based industry in the country may not be driving as fast but several go signals ahead are sure to keep it running into full speed.

One green sign is House Bill 844 or "An Act Promoting the Growth of Biotechnology Industry in Philippines and the Creation of Wealth from Biodiversity" filed by the AGHAM party-list.

One of the bill's features is the establishment of the "Philippine Bioindustry Research and Development (R&D) Center" to develop and market competitive biologically-based technologies and products. The Center also aims to harness the country's biodiversity in developing competitive products for the world market, and to manage Biotechnology Research Fund that will support off-Center R&D and research fellowship and training program; among other functions.

According to AGHAM Representative Angelo Palmones, author of the bill, the Center shall exist as a government owned and controlled corporation or GOCC for a maximum period of 10 years, after which it shall be sold-off to the private sector. It will have a funding of P500M from the Agricultural Competitive Enhancement Fund to cover its operations for 10 years.

Another provision of the bill is the setting up of the Biotechnology Guarantee Fund amounting to P500M to provide guarantee for venture capital invested by biotechnology companies. Companies and company start-ups may also avail of incentives in the form of income tax deduction, exemption and credit, and other forms of incentives from the Board of Investments, Philippine Export Processing Zone and Barangay Micro Business Enterprise.

Palmones discussed the bill in his keynote speech on the opening of the 8th National Biotechnology Week (NBW) at the Gateway Mall in Cubao, Quezon City. The NBW featured symposiums and exhibits that promoted biotechnology products developed by Filipinos for Filipinos specifically for better health of the people, and protection and conservation of the environment.

Sustainability of biotechnology R&D activities can only be assured if they are able to serve commercial purposes, and which may form the beginnings of an agricultural biotechnology industry and the much-needed commercial base for modern biotechnology to take-off in the country.

- Dr. William G. Padolina
DOST-NAST President

With the tagline "OK ang 5K (Kalikasan, Kalusugan, Kagandahan, Kabuhayan at Kaunlaran) sa Pangkalahatan Kalusugan: Mamamayan at Kalikasan," the celebration was spearheaded by Department of Health Secretary Enrique T. Ona in collaboration with the Departments of Science and Technology (DOST), Agriculture, Education, Environment and Natural Resources, Trade and Industry, Interior and Local Government, and Commission on Higher Education.

"We have five days to clarify with technology generators the many misconceptions about biotechnology products and gain better perspectives as to their effects to health and environment," Palmones said.

Palmones admitted that the NBW should have been better if, along with supporters and advocates of biotech, there were also "oppositionists" for them to get better views and understanding of the field.

Hastening the growth of PH biotech industry

Inadequate policy environment to encourage and support bioindustry development is one major factor identified by Palmones that slows the growth of biotechnology industry in the country.

"Former DOST Secretary Dr. William Padolina has already articulated the importance of private sector participation in the development of agricultural biotechnology more than a decade ago," he said.

According to Padolina, sustainability of biotechnology R&D activities can only be assured if they are able to serve commercial purposes, and which may form the beginnings of an agricultural biotechnology industry and the much-needed commercial base for modern biotechnology to take-off in the country.

The youth writes about biotech

Another highlight of this year's NBW was the participation of young people through the Biotech Campus Journalism Contest. High school and college student-writers from both private and public schools nationwide submitted feature articles on the topic

"Benefits and potentials of modern crop biotechnology in the Philippines."

In the college level, Eddie Dulpina of Our Lady of Fatima University bagged first place, followed by Dia Marmi Bazar of Misamis University at second place, and Mark Anthony Daza Toldo of University of Sto. Tomas at third.

In the high school level, Joelle Mae Garcia of Pasig City Science High School topped the aspiring biotech scribes, followed by Jeremy John Magpantay of De La Salle University's Science and Technology Complex at second place, then Regiem-Melech Ocampo of Adventist University of the Philippines Academy at third.

Winners and finalists were awarded during the opening day of 2012 NBW. The contest was organized by the Philippine Science Journalists Association Inc., AGHAM Party List, International Service for the Acquisition of Agri-biotech Applications, and Southeast Asian Regional Center for Graduate Study and Research in Agriculture.

"I believe that with the youth as advocates we can look forward for stronger support to the country's effort in advancing the cause of biotechnology," said Rep. Palmones.

Meanwhile, on exhibit were R&D products on environment, health, agriculture and topics such as, milestones of biotechnology, country's biotech and safety regulations, winning entries of last year's NBW "BiotechTOONS Contest" on benefits and potentials of crop biotechnology, and the like.

Among those on display at the booths were DOST's priority projects on biotechnology and genomics such as, clean-up agents of mining wastewater; fermentation technology for ethanol production; reactor to treat highly-polluted water of small and medium enterprises; plant-based wood preservative; diagnostic kits to detect white spot virus in shrimps and harmful contaminants in meat; radiation technologies and tissue culture in plant breeding; interactive genome library for influenza virus; diagnostic kit to detect dengue virus; among other projects for industry, health and agriculture sectors.

Notes:

AGHAM is a non-stock, non-profit association of science professionals, science journalists, advocates and supporters that seeks to push S&T as effective tools for economic development.

For more details on House Bill 844, please access the website www.agham.org.ph.

Sun and Stars collection *accessories are made of at least 50 percent Bt corn husks and kernels (3rd Place)*

Je t'aime collection *accessories are adorned with pearl, gold and other symbolisms of love (2nd Place)*

Great Bride collection. *Handbag's silhouette is made of woven and dyed Bt corn husks. Accessories are crafted from dyed husks and embellished with kernels (1st Place)*

Biotechnology sashays on the runway

By MHEDA G. GARCIA
S&T Media Service, *DOST-STII*
Photos BY HENRY A. DE LEON

Bacillus thuringiensis (Bt) corn, the first biotechnology crop allowed for commercial planting in the country, once again took the limelight – quite literally this time.

Fashion-forward accessories made of at least 50 percent husks and kernels of Bt corn were strutted down by models on the runway before the eyes of Bt corn advocates, accessory designers and fashion accessory hobbyists during the "Fashion for Biotech Contest."

The event was one of the standout moments of the 8th National Biotechnology Week celebration last November.

Accessories consisting of woman's bags, necklaces, earrings and bracelets were created by young entrepreneurs and fashion students. Of the 24 participant entries, nine designers were selected to showcase their creations.

One of them was Kim Edison Manapat, a fashion student of Fashion Institute of the Philippines (FIP), who won first place and took home P80,000 for his Great Bride collection.Kathleen Rose Sacluti, also a current FIP student, came in second and bagged P50,000 for her Je t'aimeand Pavo collections. Meanwhile, Diana Kristine Landicho, a fine arts graduate from University of Santo Tomas, placed third and received P30,000for her Elegance and Sun and Stars collections.

A product of modern biotechnology, Bt corn can inherently protect itself from corn borers, one of the most destructive worm-like pests of corn in the Philippines. It was green lighted for commercial planting in the country in 2002. Since then, the technology and its potential risks and benefits to health and environment have been hot topics in debates.

A decade after its approval, Bt corn farms have expanded to at least 600,000 hectares as of last year, according to Dr. Candida Adalla of Department of Agriculture. Taking off from the fashion items on the ramp, it seems that this crop will continue to worm its way into the hearts of some Filipino farmers.

Winners in the Biotech Campus Journalism

COLLEGE CATEGORY

The Enormous Benefits and Potentials of Modern Crop Biotechnology in the Philippines

by Eddie D. Dulpina

(The Fatima Tribune, Our Lady of Fatima University)

The Philippines is now harvesting and enjoying figuratively and literally the benefits of its modern crop biotechnology program after emerging from the controversies, protests, and debates that marred its early years. According to the International Service for the Acquisition of Agri-biotech Applications' (ISAAA) Biotech Facts and Trends (2012), the country achieved biotech mega-country status in 2004 whenmore than 50,000 hectares were planted with biotech maize. In 2011, it skyrocketed to 644,000 hectaresindicating increasing confidence by the seed producers and improving adoptions by the farmers.

Latest tally by Biotech Facts and Trend showed approximately 2.7 million hectares were planted tomaize. Our nation is the first country in Asia to approve and grow a major biotech crop, Bt corn. The reportalso disclosed, citing Dr. Graham Brookes and Peter Barfoot of PG Economics in 2012, that the economic gain by the Philippines from bumper harvests from 2003 to 2010 is estimated at US $170 million and for 2010 alone at US $63 million. Companies that produced the seed enjoyed significant income, while according to the economic impact study by Drs. Jose Yorobe, Jr. and Cesar Quicoy in 2006, the farmers gained substantial yield increases of as much as 37% that translates to an additional profit of PhP10,132 per hectare. According to them, with the 60% reduction in insecticide expenses, an incremental net income of PhP1.34 per kilo was obtained by Bt corn users despite the higher cost of seed.

One of the first to plant Bt corn is Mr. Isidro Acosta of Naguilian, Isabela. He attested to the benefits of the crop attained by farmers during the launch of ISAAA's Brief No. 42 last March 11, 2011. Mr. Acosta said, by minimizing the effect of the Asian corn borer, his income doubled – from Php 25,000 to about Php50,000 per hectare. In his testimonial, he also claimed that he saved on labor and on pesticide thus less harm to the environment; "When we sprayed back then, we can't stay long in the area and many insects disappeared. Now, we can linger in the field and the friendly insects are coming back to the farm.

"Decreased usage of insecticide is a major benefit from biotechnology. As written by Jon Entine in his article "Scientists, journalists challenge claim that GM crops harm the environment" in Forbes.com, the pesticide used in conjunction with GM crops is less persistent to the environment and less harmful to animals. It is also less toxic to man and the non-targeted insects. The potential dividends in the reduced dependence on the usage of this type of chemicals are almost unquantifiable in terms of improved soil and environmental quality and safety.

The benefits and potentials of the modern crop biotechnology in the Philippines is enormous because many crops in various stages of field trials from different research facilities in the country, will be launched commercially in the future. ISAAA had a list of these developments, from their Biotech Facts and Trends; ahead in the pipeline are the Elite lines of Golden Rice of the Philippine Rice Research Institute (PhilRice) and the International Rice Research Institute (IRRI). This year, more trials are in line to generate the needed data for full regulatory submission in 2013. PhilRice is developing a "3 in 1" biotech rice that incorporates resistance to tungro virus and to bacterial blight diseases in addition to Vitamin A. Dr. Clive James, Founder and Chairman of ISAAA, commented on this aspect. "After more than a decade in development, approval of biotech "Golden Rice" is expected in the Philippines in 2013/2014. This very important product has the capability to generate life saving humanitarian benefits – 6,000 people a day, mainly women and children, die from complications resulting from Vitamin A deficiency."

Another one in ISAAA's list is the fruit and shoot borer resistant eggplant being developed by the Institute of Plant Breeding (IPB) of the University of the Philippines Los Baños (UPLB). Field trials in three places in Luzon have been completed in 2011 and three more location trials are being conducted this year. Biotech papaya with delayed ripening and papaya ring spot virus (PRSV) resistance started field trials in 2011. Bt cotton was first tested in confined trials in 2010, then subjected to multi location trials in 2011 and early this year. A virus resistant sweet potato variety is being developed through the collaborative activities between the Visayas State University (VSU) and IPB-UPLB. Simultaneaously, activities are ongoing to generate transgenic lines of virus-resistant abaca (Musa textiles) by the Fiber Industry Development Authority (FIDA) in collaboration with the University of the Philippines.

As more GM crops finish testing and start commercialization, the significant and increasing multiple benefits from modern crop biotechnology will be realized. Dr. Emil Javier, President of the National Academy of Science and Technology of the Philippines, declared that the "tremendous benefits derived from biotech crops adoption by small and resource - poor farmers have been documented." Aside from the aforementioned benefits, some of the advantages of developing GM crops which are documented in various local and foreign literatures are improved appearance and taste, greater nutrient and vitamin contents, longer shelf life, and stability under unfavorable climatic condition, among others.

Experts thus conclude that biotechnology can contribute to achieving the Millenium Development Goal set for 2015: to reduce hunger and poverty by half, and that its "contribution is expected to expand in the future as more crops are given R&D attention and more useful traits are bioengineered into the best cultivars." One future research output which promises great potential is the drought resistant maize being developed in the US that could be adapted to local conditions. Drought-tolerant crops can be the answer to sustainability and food security especially with the onset of climate change.

This is a big challenge to the biotech R&D in the country and the government. Dr. Candida Adalla, Chair of the Department of Agriculture-Biotechnology Program Office, from an article written by Jenny Panopio and Sophia Mercado in 2010, said that biotechnology is well supported by the government. She proclaimed, "We are investing on the safe use of biotech… Biotech products would benefit everyone, particularly the Filipino people."

EDITOR'S NOTE: The nationwide Biotech Campus Journalism Contest was launched for high school and college media staff in celebration of the 8th National Biotechnology Week (NBW). The contest, which was divided into high school and college levels, aimed to encourage students to research on modern crop biotech and interview Filipino scientists, biotech corn farmers, and regulators of biotech crops. More than 90 entries from public and private high schools and colleges nationwide were evaluated and narrowed down to top 10 for each level. The winners and finalists were recognized and awarded during the opening ceremonies of NBW on November 26 at Gateway Suites, Cubao, Quezon City. The two first place winners in both levels (Pasig City Science High School and Our Lady of Fatima University) each received P15,000 and AGHAM Congressional Medal. SOURCE: SEARCA-Biotechnology Information Resource, one of the organizers of Biotech Campus Journalism Contest

HIGH SCHOOL CATEGORY

The Benefits and Potentials of Modern Crop Biotechnology in the Philippines

by Joelle Mae Garcia

(Pascian Journal, Pasig City Science High School)

The Philippine agricultural land is not getting any younger. The once fertile soil is now idle. This should not be the case since the chief source of livelihood is agriculture.

Generations upon generations are hoping to produce agricultural products higher than the demands. But the micronutrients necessary for the production of agricultural products are deteriorating. The Philippine government can no longer put back what was lost in the agricultural process but at least, it can find a solution to remedy the problem.

Micronutrient deficiencies affect many of the poor, whose diets consist mostly of staple foods. In his blog, Henrylito D. Tacio, a researcher, noted "A United Nations agency had identified biotechnology as one possible solution to the crisis the world is now facing. Biotechnology has great potential to influence and benefit agriculture, forestry and fisheries. It can help ensure environmentally sustainable supplies of safe, nutritious, affordable food.

"Since biotechnology is the possible solution to the forthcoming food crisis, it is the right of every Filipino to understand and have a full knowledge of the potential benefits and risks it may bring.

Biotechnology is hardly understood especially by those who haven't got advanced education. It is the duty of government agencies such as the Department of Science and Technology (DOST), Department of Education (DepEd), and the others, to supply the necessary knowledge and information about biotechnology.

Scientists and experts define agricultural biotechnology as a range of tools, including traditional breeding techniques, that alter living organisms or parts of organisms to make or modify products; improve plants or animals; or develop microorganisms for specific agricultural uses. Modern biotechnology includes the tools of genetic engineering as well as cell and tissue culture technologies.

Existing websites on biotechnology provide farmers with tools that can make production cheaper and more manageable, not to mention the quality and quantity of harvest. Researchers are at work to produce hardier crops that will flourish even in the harshest environments, and require less fuel, labor, fertilizer, and water, helping to decrease the pressures on land and wildlife habitats.

Tacio cited that as early as 1990, the Philippine government has identified biotechnology as a "potential growth area." In that same year, the Department of Science and Technology (DOST) designated biotechnology as a flagship program to boost the country's march to newly industrialized country status.

Queenie N. Lee-Chua wrote in one of her columns in *The Philippine Daily Inquirer* about the actual and potential benefits of genetically modified crops. She said she has the permission to quote the information given the National Academy of Science and Technology (NAST), which, as an S&T policymaking body, has stood firmly in support of the responsible use of biotechnology. She cited NAST's paper "Genetically Modified Crops: Biosafety and Food Safety Issues and Concerns", which listed several benefits of GM crops, including, according to her column: (1) better nutritional quality from rice with Vitamin A and iron, corn with high lysine and tryptophan, vegetables with more beta-carotene and lycopene, legumes with higher sulfur-containing amino acids and sweet potato with higher protein content; (2) engineering insect pest or disease resistance in important crops like rice, corn, sweet potato and others that are especially important to developing countries; (3) edible vaccines for low-cost immunizations can be provided for developing countries, for example, a diarrhea-fighting banana is now at the clinical trial stage and also about a vaccine against gastroenteritis implanted in corn feed for hogs; (4) antibodies engineered and produced in plants, for instance, expressed antibodies in potato, tobacco and rapeseed were stable and active, and could be increased; (5) environment protection from the crops that can extract and detoxify environment pollutants; (6) environment-friendly crops that produce less toxic residues, such as corn with low phytate. Phytate complexes phosphorus, and this means that the latter cannot be released into the environment. At present, a large amount of phosphate is excreted and contributes to water pollution; and (7) renewable resources and biodegradable alternative polymers to replace plastics and other petrochemical products can be produced.

Conversely, while agricultural biotechnology presents enormous potential for healthcare and the production, processing and quality of foods by genetic manipulation of crops, fertilizers, pesticides, vaccines, and various animal and fish species, the implications of these new biotechnological processes go well beyond the technical benefits offered. Associated with genetic manipulation are diverse questions of safety, ethics, and welfare.

According to Klaus Leisinger, in his article in 1996 on socio-political ramifications of biotechnology, "the risks from any new technology are divided into those inherent to the technology and those that transcend it. Technology-inherent risks of agricultural biotechnology, such as undesirable mutations, must be dealt with appropriately by the biological sciences." While the Philippines is tagged as one of the "mega-countries" (countries that produce GM crops in 50,000 hectares or more), public opposition against food and agriculture biotechnology is an experience. With the issues arising on the introduction of GM food, there is an increasing need for quality, unbiased, and factual information that will increase public understanding about it and prevent whatever chaos it may bring.

Researchers said that public acceptance of new technologies is dependent on the perception of anticipated risks and benefit, trust in public and private institutions, socially conveyed cultural values, and accumulated individual experiences. A study by F. Hossain and his team published in 2002 revealed that public attitude towards food biotechnology is mainly driven by the following factors: fear of health, safety and environment risks associated with the technology, distrust of the technology; and, also including positive factors like the willingness to learn more about the technology and confidence in government regulations.

In this case, the public must be informed of the benefits and potential risks of biotechnology comprehensively. It is not too late to spread these words.

Investing in healthcare innovation

By ANGELICA A. DE LEON
S&T Media Service, *DOST-STII*

"A healthy citizenry equals a productive citizenry, equals a productive country." Department of Science and Technology (DOST) Region XI Assistant Regional Director Elsie Mae A. Solidum thus summed up her talk titled "Why it makes sense to invest in healthcare innovation" during the recent Innovation Expo 2012 held at the AbreezaMall in Davao City.

Bringing the Expo to the provinces such as Davao is very important, Solidum said. This is due to the fact that the quality of health service in rural districts especially the far-flung regions is crippled because of the strong demand for highly skilled medical professionals in the big, progressive cities, making doctors and nurses flock to these urban areas. Connectivity and accessibility to expert medical care then become serious problems in these localities.

This is where technology can bridge the gap, without necessarily adding cost to the service, said Solidum. The DOST official mentioned cellular phones and the Internet as strong, reliable tools to create such connectivity between doctors, nurses, and patients.

Innovation Expo is aproject of DOST's Information and Communications Technology Office and ICT Davao,in partnership withthe Regional Health Research and Development Consortium-XI (RHRDC-XI). Bannered the theme "Enabling Innovation in Healthcare, Creative and ICT Industries",the Expo was held in November to inform players of said industries and the public on the need to maximize the use of technological trends in the profession and promote the adoption of locally developed ICTs.

The initiative is in line with DOST Sec. Mario Montejo's pitch of developing and usinglocal technologies and the Department's current thrusts of pushing further to the frontlinesthe healthcare and IT-business process outsourcing (BPO) industries.DOST-XI Regional Director Anthony Sales gave full support to the Expo, in regard to the fact that Davao tops the Next Wave Cities, or areas outside Metro Manila and Cebu that have the strongest potentials as BPO hub.

In affirming DOST's commitment in support of advancements and modernization of the local health care sector, Solidum stated that the Department fulfills this task via its sectoral council, the Philippine Council for Health Research and Development. The council formulates policies,develops strategies, implements projects, and provides funding as it strengthens the feasibility and impact of these health innovations.

Meanwhile, in another talk, Engr. WilfredoNadela, vice president of Segworks Technologies Corporation said, "If we need our health care organizations to be more cost-effective, more organized, and more efficient, there is no other way but to invest in healthcare innovation." Segworksis a frontrunner in southern Mindanao's software industry.

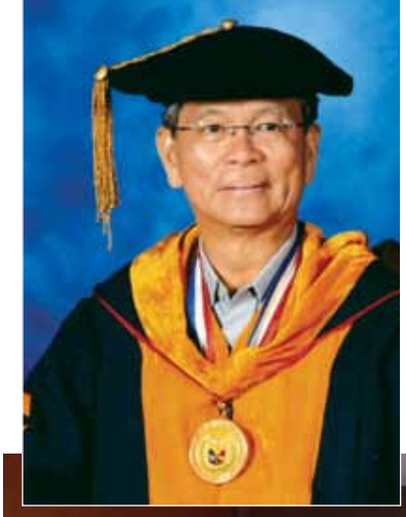
Nadela discussed two dynamic areas in which hospitals and health facilities can effectively put innovations in place: IT tools and health information system portals.

According to him, IT tools which include electronic-based medical histories and records of patientswill help assist physicians in evidence-based decision making. Health information system portals, on the other hand, will allow patients, doctors, and nurses to log on to their own secure portals for the necessary information – from the patient's medical history, health status and progress, to medication, treatment and procedures.

"Personally, I think the Philippines needs health care innovations. China, Vietnam, and Singapore have better health care systems than we do," claimed Nadela.

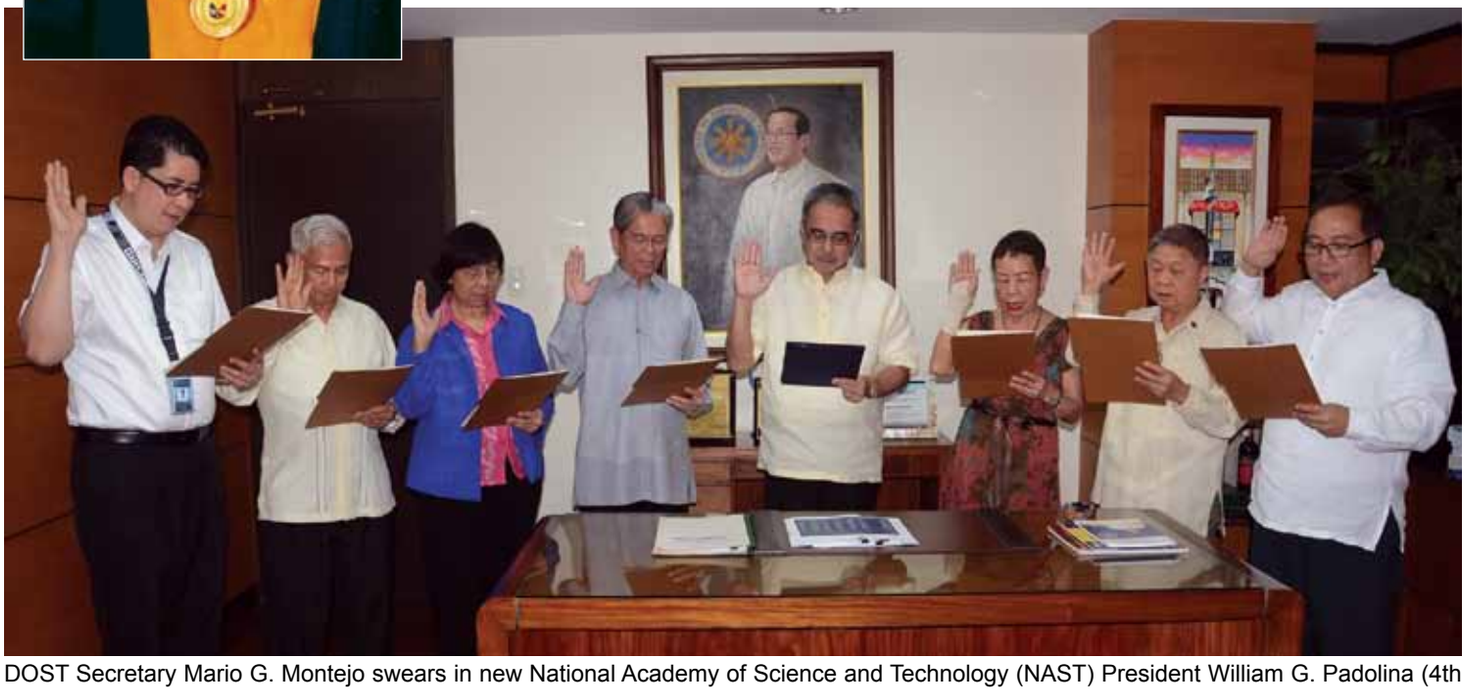
Adrian Flores, CEO of X2 Wave Corporation, a Davao-based software company specializing in health care solutions, further illustrated the benefits of incorporating results-driven technology within hospital systems via a presentation of the company's high-impact software solutions. Among these is the Electronic Medical Record which has the full capability of sharing patient information with any health care facility or doctor as the need arises.

Innovation Expo 2012, which likewise served as a show window for Filipinos' potential and high level of expertise in ICT,was attended by medical professionals, IT product developers, vendors, BPO service providers, and students, among others.



Dr. Padolina, former DOST Secretary elected NAST President

By ANGELICA A. DE LEON
S&T Media Service, *DOST-STII*



DOST Secretary Mario G. Montejo swears in new National Academy of Science and Technology (NAST) President William G. Padolina (4th from left) and other newly elected NAST officers (from left) Dr. Jaime C. Montoya, Dr. Angel C. Alcala, Dr. Evelyn Mae Tecson-Mendoza, National Scientist Mercedes B. Concepcion, Dr. Ruben L. Villareal, and Dr. Reynaldo B. Vea.

Former Department of Science and Technology (DOST) Secretary, Academician William G. Padolina has been appointed President of the National Academy of Science and Technology Philippines (NAST PHL), the Philippines' foremost recognition and advisory body on science and technology.

A phytochemist and retired professor of the University of the Philippines Los Baños (UPLB), Padolina was a recipient of the 1982 NAST Young Scientist Award. He takes over from former NAST President, Academician Emil Q. Javier who headed the academy from 2005-2012.

As DOST Secretary from 1995-1999, Padolina, campaigned for the country's global competitiveness via technology management, actively pushing for partnerships between government, the private sector, and the academe to utilize the power of the Internet, a revolutionary concept at that time, and make the Philippines at par with the rest of the word. He was instrumental in the increase of Internet awareness in the government sector as well as the growth of e-commerce in the country.

After his term as DOST Secretary, Padolina served as Deputy Director General for Operations and Support Services of the International Rice Research Institute. Aside from the NAST Young Scientist Award, he was also conferred the Ten Outstanding Young Men (TOYM) Award for Science and Technology in 1985, UP System Outstanding Administrator Award in 1988, PANTAS Award in Research Management in 1989, and the Philippine Legion of Honor with the rank of Officer in 1998 and 1999.

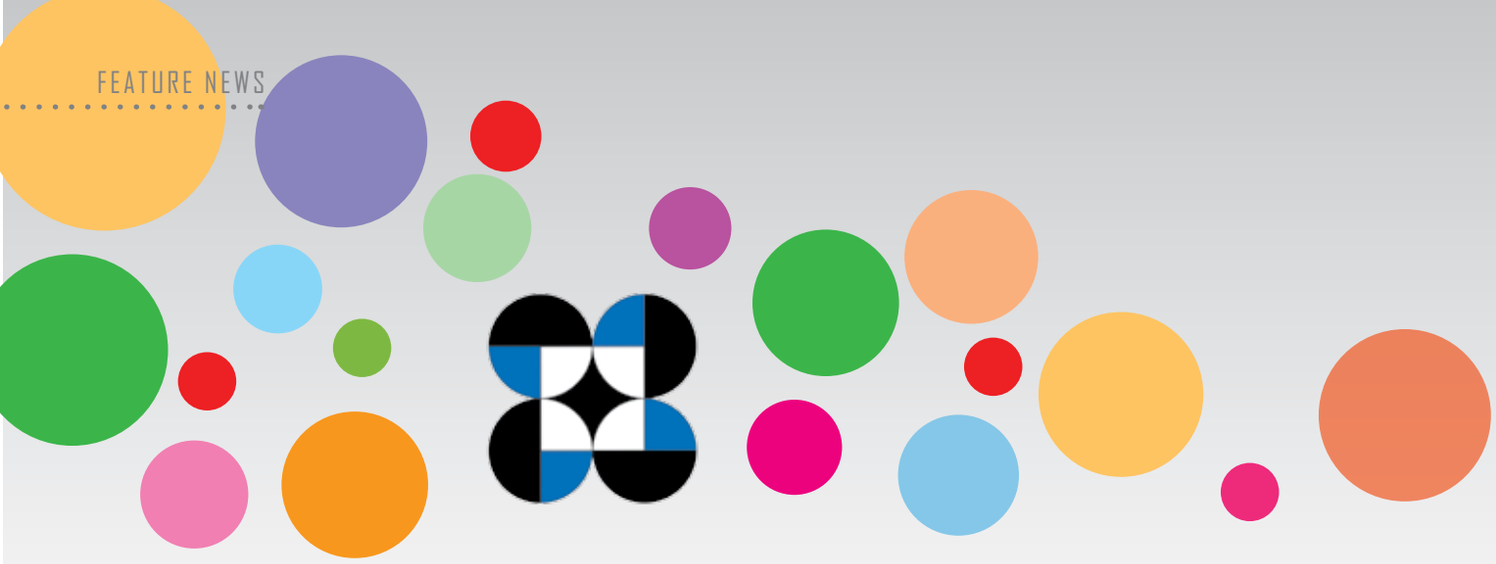
Padolina was named NAST President during a special meeting of NAST members last October.

Re-elected as Vice-President was National Scientist Mercedes B. Concepcion, Professor Emeritus of UP Diliman and world-renowned expert in demography. Concepcion is a recipient of the United Nations Population Award for her invaluable contributions in the field of demography.

Also re-elected as Secretary was Academician Evelyn Mae Tecson-Mendoza, current Chair of the Chemical, Mathematical and Physical Sciences Division of NAST and retired Research Professor of Biochemistry at UPLB.

The other members of the Executive Council are Academicians Angel C. Alcala, 1992 Ramon Magsaysay Awardee for Public Service and a University Research Professor and Director of the Siliman University-Angelo King Center for Research and Environment Management; Jaime C. Montoya, Executive Director of the DOST Philippine Council for Health Research and Development; Reynaldo B. Vea, President of the Mapua Institute of Technology; and Ruben L. Villareal, former Principal Plant Breeder at the Asian Vegetable Research and Development Center and former Dean of the UPLB College of Agriculture and UPLB Chancellor.

The Council members will serve for a period of three years, from 2012 to 2015. The oath of office was administered by DOST Secretary Mario G. Montejo.



Branding DOST

By MHEDA G. GARCIA
S&T Media Service, *DOST-STII*

Branding is about getting your prospects to see you as the only one that provides a solution to their problem, according to marketing gurus. This is exactly the image that the Department of Science and Technology (DOST) wants to get across to its stakeholders.

Thus, in strengthening DOST's pitch as the authority in providing S&T solutions to the country's most pressing needs, DOST's Science and Technology Information Institute (DOST-STII) brought together the frontliners of the Department's public relations, communication and marketing activities to learn together in a workshop, the second of a series, how to package the DOST brand.

With the theme "Branding DOST: Creating a Common Look towards a Common Goal," the four-day activity which was held in Dumaguete City last October involved DOST information officers and managers nationwide, and to supplement the prior workshop on strategic communication held in Davao City earlier this year.

Branding, though government outfits like the DOST rarely use the word, is just as important in the public sector as it is in the private sector.

"Branding allows you to gain recognition and loyalty, become tangible to your audience, and increase your credibility," said Mr. Joel L. Cruz, one of the workshop speakers, and speaking from a corporate point of view.

> ***"Branding allows you to gain recognition and loyalty, become tangible to your audience, and increase your credibility."***
>
> - Joel L. Cruz
> JLC Communications

What is the DOST brand?

DOSTthrough the years has crafted a brand for itself and for the last three years has sharpened its consciousness in the aspect of branding and marketing. Spearheaded by the DOST-STII, the Department's information, communication, and marketing arm, branding DOST has become one of the most important concerns in all of the Department's projects, programs, and activities.

One of the most important brandingstrategy of the DOST is to maintain a consistent look which starts with the use of the logo.

Professional logo

On top of creating a professional logo that looks great, ensure that the design works across all media, said Mr. Cruz who serves as marketing and communication manager of Aquabest, Inc.

"People have to see a brand seven times before they can recall it hence maintain its consistency across multiple media so that the audience will recognize it sooner and remember it longer," he added.

Meanwhile, DOST Region XI Director Anthony C. Sales presented the DOST Corporate Identity Manual which contains rules and guidelines on the design, symbolism, and usage of DOST logo to visually portray the DOST as a corporate image.

"It was based on Undersecretary Carol M. Yorobe's directive to have a uniform look for all DOST regional offices," he said.

"As information officers, you have a say on how we project our image," Dir. Sales added.

The manual was adopted by the regional information officers and managers present in the workshop through a resolution. It will also be presented to DOST's Research and Development Institutes, and Management Committee for adoption.

DOST Undersecretary Fortunato T. dela Pena; Mr. Joel L. Cruz of Aquabest, Inc.; and DOST Region XI Director Anthony C. Sales. *(Photos by Ceajay Valerio, S&T Media Service, STII)*

DOST's Technology Application and Promotion Institute Director Edgar I. Garcia pledged to check the intellectual property (IP) protection of the DOST logo and validate the logo's specifications and descriptions with the IP Office of the Philippines.

Towards a common goal

One of the benefits of branding is that it helps create internal unity and a sense of shared purpose. To give participants a holistic view of DOST's goals and direction for the next several years, DOST Undersecretary for S&T services Fortunato T. dela Pena presented "DOST Thrusts: 2012 and Beyond."

"DOST provides central direction, leadership and coordination of scientific and technological efforts and ensures that the results therefrom are geared and utilized in areas of maximum economic and social benefits for the people," Usec. dela Pena recapped the Department's mandate.

In support of its mandate, DOST, under the stewardship of Secretary Mario G. Montejo, concentrates on three key result areas (KRAs): S&T for economic development, S&T for human resources development, and S&T for disaster risk reduction and climate change adaptation and mitigation. Said KRAs are anchored on President Benigno Aquino III's social contract.

Usec.dela Pena said all major DOST programs are aligned under the three KRAs. Priority programs that fall under KRA "S&T for economic development" are:

Research and Development (R&D) programs in agriculture and natural resources, health and nutrition, industry and energy, food processing equipment and automated guideway transit system;

Programs on capability building and infrastructure supportfor priority industries such as establishments of Advanced Device and Materials Testing Laboratory, Product Development Center, Tool and Die Center, Automotive Parts Development and Testing Center, Core Facilities for Genomics R&D, Skills Training for High Precision Processes and Instrumentation, and Furniture Testing Center;

Small Enterprise Technology Upgrading Program or SETUP in the countryside; and *Information and Communications Technology (ICT) programs* such as the National ICT Governance Program, e-Government, ICT Industry Development, Internet for all, and Cyber Security.

On the other hand, all DOST scholarship programs fall under KRA "S&T for human resources development" including DOST's Science Education Institute and Philippine Science High School System scholarship programs.

To accelerate this area within the next three years, Usec.dela Pena said DOST will employ strategies including distance

continued next page

Workshop organizer and Changing the Mindset program leader Dr. Aristotle P. Carandang of DOST-STII (left) guides the participants during the practicum at the virgin coconut oil mill in Valencia, Negros Oriental. The mill is operated by a small coconut farmers' association assisted by DOST Region VII.

Resource persons Framelia V. Anonas, Henry A. de Leon and Mona E. Montevirgen all of DOST's Science and Technology Information Institute; and Mr. Ruel S. Pagcaliwagan of DOST's Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development. *(Photos by Ceajay Valerio, S&T Media Service, STII)*

BRANDING . . . from page 31

education (e-learning), straight Master of Science/Doctor of Philosophy (PhD) programs, research degree programs, sandwich program (local and abroad), expansion of existing consortia and Balik-Scientist programs, grants for theses and dissertations, and employment contracts for graduates of DOST-PhD scholarships.

In line with KRA "S&T for disaster risk reduction and climate change adaptation and mitigation" are DOST's Philippine Atmospheric, Geophysical and Astronomical Services Administration technologies; Philippine Institute of Volcanology and Seismology's monitoring network; and Program NOAH (Nationwide Operational Assessment of Hazards).

Other related programs in this area are Doppler radar R&D and capability development, infrastructure disaster proofing, enhancement of quake (seismic) mapping, storm surge inundation mapping of Philippine coastal areas, urban flooding system, and disaster science and management innovation cluster.

Information branding

To effectively communicate the unique benefits of its interventions, and to raise awareness on its programs and indispensable services for the Filipinos, DOST through STII pushes another branding strategy–the S&T information branding.

DOST's homegrown experts lectured on the protocols of proper handling of S&T information for print, audio-visual, and other media; and on managing S&T events to create awareness and persuade prospects for technologies and services offered by DOST.

"In choosing your story angle, KISS (Keep It Scientific but Sexy)," said Ms. Framelia V. Anonas, chief writer and editor of DOST-STII. She talked about the three-step rule on how to KISS a story: stick to the facts–the actual research findings, events and figures; highlight the best angle; and style it to look good in print.

The good news, actual results or benefits of DOST interventions, quotes from clients and beneficiaries are some possible angles that could make an S&T story newsworthy. The best angle though is "to project DOST as provider of solutions to pressing problems of the society," she stressed.

Mr. Henry A. de Leon, a seasoned photographer and videographer of DOST-STII, tackled basic photography and photojournalism with much emphasis on the mechanics of digital photography, techniques for beginner photographers, and guidelines for writing photojournalism's cutlines and captions. "Photojournalism for S&T aims to communicate, not to impress," he said.

Ms. Mona Carina E. Montevirgen, chief scriptwriter and audio-visual producer of DOST-STII, on the other hand, discussed the fundamentals of scriptwriting and audio-visual production (AVP) for S&T. She talked on potential concepts, content, structure and format of a script or the blueprint of an AVP as well as the "must-have" abilities of a scriptwriter.

Meanwhile, Mr. Ruel S. Pagcaliwagan, writer and editor of DOST's





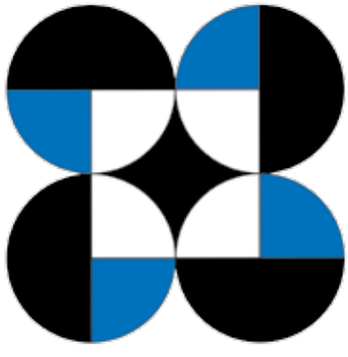



Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD), discussedthe principles and best practices of event management. Among the best practices he presented were PCAARRD's FIESTA (Farm and Industry Encounters through Science and Technology Agenda) such as this year's Mango FIESTA at Manggahan Festival in Guimaras Province on April 16-20, and 1st Coffee FIESTA at Benguet State University on July 5-6.

Frontliners of branding

Forty-two information officers and managers of various DOST agencies nationwide participated in the workshop. "They are the frontlinersin branding DOST," said DOST-STII Director Raymund E. Liboro.

Participants were given lectures and exercises on writing news articles, creating photojournalism and photo essays, and producing scripts and storyboards.



DOST logo

The four circles represent the four guiding principles in science and technology (S&T) development: excellence, relevance, cooperation, and cost-effectiveness. The circle design gives an illusion of movement signifying progress through S&T; the four-pointed star in the center symbolizes scientific creativity; and the logo's three-color scheme represents the unknown (black), truth and enlightenment (white), and progress (blue).

Outdoor activities were conducted within Negros Oriental to facilitate their gathering of information and photos. Outputs were critiqued by the resource speakers.

A new set of officers of DOST MediaCore, the group of information officers from different DOST-attached agencies responsible for writing news items and press releases, were also elected. Ms. Ruby Cristobal of DOST's Science Education Institute, a pioneer member of the MediaCore, was elected president while Mr. Pagcaliwagan, Mr. Ramil T. Uy of Region VIII, and Ms. Teresita Superioridad-Baluyos of Region X were elected vice-president for Luzon, Visayas and Mindanao, respectively.

The activity is part of Changing the Mindset (CTM) program, a DOST branding initiative. Dr. Aristotle P. Carandang of DOST-STII, the CTM program leader, facilitated the entire workshop.

DOST's *DREAM* project takes off

By GEORGE ROBERT E. VALENCIA III
S&T Media Service, *DOST-STII*

THIS DREAM is no longer just a dream. It in fact takes off the country's first extensive three dimensional (3D) mapping program through the flight of two aircrafts carrying state-of-the-art Light Detection and Ranging or LiDAR instruments at the Clark Airbase. The mission: begin scanning the Pampanga river basin to start the groundwork.

The development of 3D maps is part of the Department of Science and Technology (DOST)'s Nationwide Operational Assessment of Hazards or NOAH, the country's flagship program in disaster mitigation. Particularly, it is a component of Program NOAH's Disaster Risk and Exposure Assessment for Mitigation or DREAM project.

Program NOAH's DREAM component will create stunning 3D images—reliable, detailed, and up-to-date flood models of the country's 18 major river basins plus watersheds, and later will include all other flood-prone areas in the country. In two years, DREAM will complete all flood models of the major river basins, which is roughly 33 percent of the country's total land area.

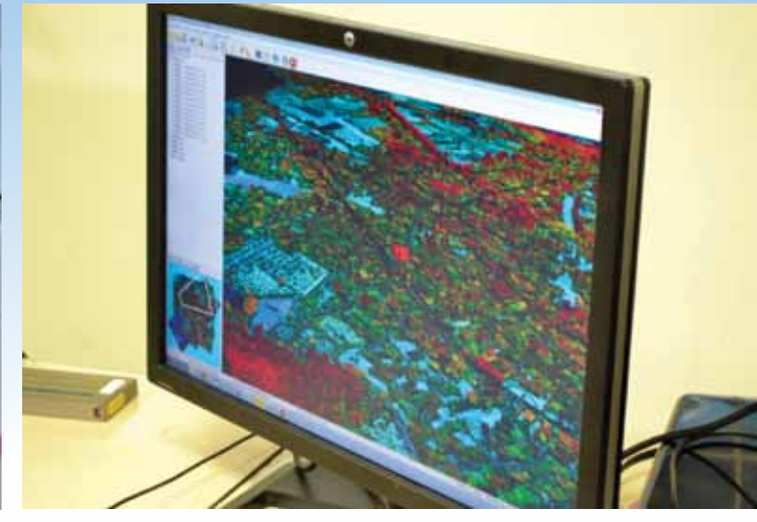
According to to DOST Sec. Mario Montejo, the fine-resolution maps will be processed to produce more accurate flood models that will serve as basis to warn communities in advance of potentially deadly floods.

"Along with other components of Program NOAH, such as the deployment of locally made hydromel sensors and rainfall forecast modeling, we are slowly building the infrastructure of how we will be able issue at least a six-hour warning to vulnerable communities against floods and other rain induced hazards for the entire country," Sec. Montejo explained.

"This is one of the most, if not the most, extensive three dimensional mappings in South East Asia. We are also proud to say that the DREAM Project is composed of Filipino engineers and scientists," said Project Leader Dr. Enrico C. Paringit.

DREAM employs a technology called Light Detection and Ranging or LiDAR to create 3D datasets to base the intended flood hazard models. LiDAR technology has been around for 10 years, and Dr. Paringit said that it is the most effective

Cheers, our DREAM is about to fly! Department of Science and Technology Sec. Mario G. Montejo (front) pours champagne moments before this plane equipped with LiDAR takes off. The LiDAR instrument will initially scan the country's 22 major river basins to come up with high-resolution 3D maps. This initiative is part of DREAM, short for Disaster Risk and Exposure Assessment for Mitigation, a component of the DOST-led Program NOAH. UP President Alfredo E. Pascual (right) and UP Diliman Chancellor Caesar A. Saloma (middle) cheer on as DOST's partners in NOAH. DOST and UP inaugurated recently at UP Diliman campus Program NOAH's DREAM office where the information gathered by the LiDAR will be processed. *(Photo by Joy M. Lazcano/Text by Framelia V. Anonas, S&T Media Service)*



technique to accurately measure elevation and depth critical to flood modeling.

"This is what Google maps or Google Earth lacks: a 3D coordinate. It has a few 3D maps but only for select cities, like New York in the US," said Dr. Paringit.

"LiDAR maps also have vertical accuracy of plus and minus 20 centimeters. Philippine base maps and 2D Google Maps, on the other hand, have plus and minus 10 and 20 meters, respectively, and cannot be used for effective flood modeling," he added.

Meanwhile, Dr. Paringit categorizes floods according to location—riverine, coastal, and urban—all of which require different modeling approaches, he said. While the focus of DREAM is now mainly for riverine floods or those situated in river basins, LiDAR mapping is equally useful for the other flood types.

The DREAM 3D maps have many other uses, such as in the areas of forest inventory, environmental monitoring, infrastructure planning, faultline mapping, archaeological surveys, agricultural assessment, and even government revenue management.

"The maps to be generated by DREAM will be very beneficial for government agencies. After the initial mapping and flood modeling program, we can always use the LiDAR instruments for other purposes, including post disaster damage assessments like earthquakes, tsunamis, and others," said Dr. Paringit.

Ultimately, all DREAM's flood models will be incorporated into the Program NOAH website and shall complement the flagship disaster program's advanced tools for hazard mitigation, making the six-hour early warning target for communities at risk a reality.

According to Dr. Paringit, the first "rough" flood model of Marikina was put to test during the recent Habagat onslaught in August 8.

"We were able to warn the people of Marikina hours before the flood and averted the possible loss of lives," he said. "Now with the LiDAR instruments around, the present flood models will be greatly refined up to house level," he added.

DOST's disaster info now accessible at Petron facilities for motorists, commuters

By ALLAN ACE W. ACLAN
S&T Media Service, *DOST-STII*

THE DEPARTMENT of Science and Technology through Sec. Mario Montejo recently signed a Memorandum of Understanding with Petron Corporation to enhance accurate hazards information through various communication platforms for motorists and commuters. The giant oil refining company was represented by Petron Corporation President Eric Recto and Petron Corporation's CEO Ramon Ang.

In the said MOU, the collaboration aims to promote and integrate advanced science and technology that will enhance the disaster management and prevention capacity of the Philippine Government. Particularly, the communication component of Program NOAH (Nationwide Operational Assessment of Hazards) will be bolstered to address the public's need for timely information during threats of disaster.

DOST's Program NOAH is designed to set up a more responsive disaster preparedness system to reduce human casualties from rain-triggered natural hazards.

Both parties agreed to share their core competencies to help the country's motorists and vulnerable communities in coping with threats posed by rains and flashfloods under the vision of the public-private partnership promoted by President Benigno S. Aquino III.

"DOST and Petron have joined hands in helping the public, specifically the country's motorists and commuters, get valuable information from the Department's monitoring system installed in many key points in the country," Secretary Mario Montejo said.

Through the Petron Foundation Inc., the oil refining company agreed to have its service stations as sites to provide weather bulletins and updates from DOST to the motorists. Moreover, Petron's facilities, including the Bataan refinery and various terminals, depots and service stations, will be equipped with automated weather systems to be used in the monitoring.

Program NOAH info on the road. Department of Science and Technology Secretary Mario G. Montejo (middle) and Petron Corporation Chairman Ramon S. Ang (left) with Petron Corporation President Eric G. Recto sign the Memorandum of Understanding to promote Program NOAH through various communication platforms for motorists and commuters last October 24, 2012 at the San Miguel Corporation Executive Lounge, Ortigas Ave, Mandaluyong City.

Petron will also help to distribute DOST's Program NOAH flyers to motorists, and serve as information center for the project. This is in line with Petron's SagipAlalayinitiative of pre-positioning basic rescue equipment in service stations where the risks of disasters are high.

Secretary Montejo emphasized that the DOST embraces collaborative projects to maximize its capabilities in addressing long–standing crisis as well as emerging environmental and socio-economic challenges.

"The team-up of DOST and Petron is another indication that public and private institutions can work together and pool resources together to intensify the government's efforts in disaster preparedness for our people,"Montejo added.

DOST's NOAH aims to respond to the urgent need for a reliable flood warning system in all major river systems and watersheds in the country. Some of its components include Disaster Risk Exposure (DREAM), Assessment and Mitigation, FLOODNET, Sensors Development and Weather Media. The program was launched following the President's directives to concerned government agencies to step up national efforts toward greater and more intensive disaster risk reduction and management procedures after Typhoon Sendong one year ago.

Let's talk health via eHealth.ph

By LUISA S. LUMIOAN
S&T Media Service, *DOST-STII*

THERE ARE substantial researches that look into the efficacy of *tawa-tawa*, but there are limited toxicity studies about the plant. These studies must be integrated into one directed goal of producing a safe and effective product from nature.

This was one of the points of discussion during a recent conference on *tawa-tawa* last November, as synthesized by Dr. Gemiliano Aligui, Dean of the University of the East Ramon Magsaysay Memorial Medical Center Graduate School and Associate Professor and Research Coordinator of the Ateneo School of Medicine and Public Health.

However, the discussion did not happen within the walls of a conference room. The resource speakers, moderators, and participants were at different places during that time. The conference was online, made possible through a web portal called eHealth.ph.With this technology, everyone involved in the conference was able to interact with one another in real time, without being in the same room together.

Formally launched last November 21 during the National Forum on Health Research for Action, eHealth.ph is a joint endeavour of the Philippine Council for Health Research and Development (PCHRD) of the Department of Science and Technology (DOST) and the Institute of Philippine Culture (IPL) of Ateneo de Manila University.

According to project director Dr. Dennis Batangan of IPL, the portal serves as a platform for exchange of information particularly about on-going health researches in the country. Dr. Batangan and Dr. Aligui served as moderators during the online conference.

Aside from being able to participate in online conferences, site visitors also gain access to journal articles, research databases, a health directory, blog posts, and other pertinent health information.

As the country's premier hub of science and technology (S & T) data and information, DOST constantly endeavours to generate awareness on current issues and developmentsas it fulfils its mandate of harnessing S&T as a solution to the country's pressing problems. Within the health community, universal healthcare remains a problem. Lack of knowledge and in some cases, an outmoded way of thinking when dealing with sickness, have been identified as among the factors which derail the delivery of quality health services. This latest initiative of PCHRD clearly dovetails with this mission of DOST.

To date, four online conferences were already conducted at http://ehealth.ph, which aimed to contribute to the on-going dialogues and dissemination of research studies among researchers, research institutions and other stakeholders.

Dr. Batangan added that the website also aims to provide an enabling environment for research collaboration, knowledge mobilization, and sectoral convergence of health communities.

The schedule of upcoming conferences is announced in the website. One must be a registered user to be able to participate in said conferences. However, non-registered users can still access and see the results of the online discussions.

Stay healthy with DOST-developed guyabano supplements & tea

By REGINALD ROY U. DE LA CRUZ
S&T Media Service, *DOST- ITDI*

GREEN, PULPY, sweet, and healthy. That is guyabano for you.

Guyabano *(Anona muricata)*, or soursop as it is known in English, is a small tropical fruit tree bearing a sweet heart-shaped fruit with a soft-spined green outer skin and soft pulpy white flesh. It has been refreshing people for a long time as a fruit juice, flavoring, puree, tea, or eaten as it is. It is being widely cultivated in Central America, some sub-Saharan parts of Africa, and in Southeast Asia, the Philippines included.

But aside from being rich in carbohydrates, dietary fiber, and Vitamins C, B1, and B2, do you know why it is very good for you? Studies by the Chemicals and Energy Division (CED) of the Department of Science and Technology's Industrial Technology Development Institute (DOST-ITDI) show that guyabano generally has high flavonoid content. Flavonoids are phytochemicals that have been found to inhibit or even prevent the growth of viruses, carcinogens, and allergens.

These are just the few benefits that the DOST-ITDI aims to harness as it develops and promotes guyabano as a natural dietary health supplement. Traditionally, guyabano has been consumed by diabetics to lower their blood sugar, and tests showed that it even outperforms Metformin, the most commonly used maintenance drug of diabetics, in lowering blood glucose levels.

Hence there is the need for a better and more convenient packaging for guyabano to strengthen its marketability.

ITDI's CED, while adhering to WHO standards, processed and packaged guyabano fruits and leaves into 250 and 300mg capsules or in two-gram teabags. "Thus, guyabano capsules and tea bags are now more convenient to use. They are standardized and naturally processed, and thus guaranteed safe," says Annabelle Briones, CED chief science research specialist.

www.stuartxchange.org/Guyabano.html

In addition, guyabano has been scientifically and traditionally proven to have great natural benefits. It helps lower fever, spasms, heart rate, and blood pressure. It also helps relieve pain, inflammation, and asthma. Consuming guyabano extract can also safely prevent cancer cells from forming while effectively slowing down tumor growth. It also helps stop the growth of harmful bacteria, viruses, fungi, and parasites, even as it stimulates digestion and stop convulsions.

At the ITDI, CED researchers performed thin-layer chromatographic fingerprinting and phyto-chemical screening on the guyabano extract to determine its chemical makeup. They also tested the fruit for anti-microbial capability against Staphylococcus aureus, E. coli, and other common bacteria strains, as well as for acute toxicity.

They used the Folin-Ciocalteau method to determine the antioxidant content of the leaves and fruits. After the screening, the researchers confirmed that the guyabano extract used was relatively free of pesticide residues, heavy metals, molds, and salmonella.

"We also discovered that the green unripe guyabano fruit contains more flavonoids than the yellowish ripe fruit. The leaves meanwhile are rich in tannins, fats and oils, unsaturated steroids, and triterpenes, and again, more flavonoids," Briones said. "Therefore, all these properties really make guyabano an ideal health supplement."

So it seems like it is not just an apple a day that could keep the doctor away, but guyabano too!

More peanuts to grind now for this Dipolog firm

By THELMA E. DIEGO
S&T Media Service, *DOST Region IX*

KRAM'S FOOD Products, a small to medium enterprise that produces peanut butter in Estaka, Dipolog City, is ready to grind more peanuts.

With a P120,000 support from the Department of Science and Technology-Small Enterprise Technology Upgrading Program (DOST-SETUP), the firm is spreading up its creamy, crunchy prospects as it upgrades its peanut butter processing facility.

Through the support, KRAM's will acquire two peanut grinders, two stainless steel tables, a peanut roaster, and a biomass stove.To improve its production process, KRAM's also participated in DOST-Region IX's trainings on good manufacturing practices (GMP), and on basic sanitation and hygiene for the enterprise workforce.

With these interventions, the enterprise expects to chomp up its current production by 30 percent, which will result

continued next page

Noodles processor avails of DOST's Upgrading Program

By THELMA E. DIEGO
S&T Media Service, *DOST Region IX*

A NOODLE factory in Ipil, Zamboanga Sibugay will soon offer consumers squash noodles in new and improved packaging.

The improved packaging will improve the quality and shelf-life of dried noodles such as pancit, miki and misua produced by the Ipil Market Vendors Multi-Purpose Cooperative (IMAVEMCO)–the sole women's cooperative in Zamboanga Sibugay.

Said products have already penetrated a number of markets in Zamboanga Sibugay and Zamboanga City. But IMAVEMCO wants to expand further the products' market reach. IMAVEMCO members know that appropriate packaging and labeling are powerful toolsin attracting more buyers.

With limited resources and expertise in those areas, the cooperative sought the Department of Science and Technology's Small Enterprise Technology Upgrading Program (DOST-SETUP) support.

DOST through its office in Region IX approved to implement the project entitled "Enhancement of Squash Noodles Packaging Material of IMAVEMCO" amounting to P333,750. The intervention focuses on the enhancement and improvement of packaging and labeling materials of the cooperative's noodles.

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MORE PEANUTS . . . from page 39

in production of 1,008 more peanut butter jars a year.

It also targets to increase sales by 30 percent, generate additional employment, improve the quality of products through adherence to GMP, and acquire License to Operate from Department of Health's Food and Drug Administration (FDA).

KRAM's Food Products produces peanut butter from roasted peanuts that are grilled and mixed with sugar, salt and butter. The product is consumed mainly as sandwich spread, and as ingredient in making fresh lumpia and kara-kare.

It currently distributes peanut butter products in cities of Dipolog and Dapitan, and in the municipality of Manukan. As soon as the enterprise gets FDA license, it plans to expand its market to major grocery stores in Zamboanga del Norte province.

SETUP, a flagship program of DOST, is a nationwide strategy to encourage and assist micro, small and medium enterprises in the implementation of technological innovations and improvements in their operations in order to boost their productivity and competitiveness.

NOODLE PROCESSOR . . . from page 39

The support supplements the earlier assistance DOST-SETUP gave to the cooperative. DOST already provided technical consultancy services to acquire and fabricate noodle processing equipment; and conducted training to upgrade the skills of employees on basic sanitation and hygiene, and good manufacturing practices.

IMAVEMCO was formed in 1994 in Ipil public market with only 26 members. The cooperative initially aimed to help the women vendors by lending them capital money with lower interest. At present, apart from the noodle factory, it also has a mini bank and a consumer store.

Alipon Is FORESPI's 2012 Outstanding Scientist

By RIZALINA K. ARARAL
S&T Media Service, *DOST-FPRDI*

DR. MARINA A. Alipon, Scientist I of Department of Science and Technology's Forest Products Research and Development Institute (DOST-FPRDI), has been named this year's Most Outstanding Scientist for research in forestry and natural resources utilization.

Forests and Natural Resources Research Society of the Philippines (FORESPI) conferred the award last November 16 at the University of the Philippines Los Baños' College of Forestry and Natural Resources in Los Baños, Laguna.

FORESPI recognized Dr. Alipon "for her 32 years of profound and painstaking scientific research works on the physical and mechanical properties of industrial tree plantation species, lesser-known species, and other Philippine timber species."

Her three-decade scientific works provided clear and precise benchmark information, and practical applications to wood-using industries as well as to engineers, architects and researchers searching for potential end-uses of certain tree species

She developed a simple equation to predict the seasoning characteristics of at least 180 species of Philippine timbers using only three parameters: volumetric shrinkage, relative density, and seasoning characteristics.

Dr. Alipon was also noted for co-inventing the country' first portable digital wood moisture meter, a technology used in reading moisture content of Philippine wood species from 6 to 25 percent. The invention won first place in outstanding utility model category of 2010 National Invention Contests and Exhibits.

Currently, digital wood moisture meter is being used by more than 100 clientele and small and medium-based enterprises nationwide to improve the quality of their wood products. The invention has been proven more efficient and affordable than the imported ones.

Organized in 2003, FORESPI is a national organization of researchers in forestry and related fields that promotes sustainable development, particularly the conservation and management of the country's forests and natural resources.

Lady scientists in marine life research get the 2011 L'Oreal-UNESCO Award

By ALLAN ACE W. ACLAN
S&T Media Service, *DOST-STII*

WOMEN HOLD up half of the sky, according to an old Chinese proverb but for two women scientists, US-based Dr. Ma. Cecilia Conaco and Manila-based Dr. AlettaYniguez, who recently won the 2011 For Women in Science (FWIS) L'Oreal-UNESCO Awards, the whole horizon of opportunities is theirs.

The award, conferred by the Department of Science and Technology with UNESCO, entitles each to a Php400,000 international fellowship research grant fromL'Oréal.

Conaco, a 34-year old Balik Scientist, is a post-doctoral researcher at the Neuroscience Research Institute at the University of California Sta. Barbara, USA where she received the Excellence in Neuroscience Research Award. Yñiguez, meanwhile, is Assistant Professor at the Marine Science Institute of the University of the Philippines.

Conaco was conferred the award for her research proposal entitled "Dynamic Gene Regulation in Marine Sponges" which aims to identify novel sponge genes and the mechanisms that allow the organism to monitor and adapt to its environment. The project will help the public understand better the impact of ecological change on marine life. It will also provide insights into the development of technologies for the synthesis or isolation of bioactive compounds.

According to Conaco, sponges are the oldest, very special, and economically and ecologically important marine organisms. She also added that because of the transmutation that they undergo during their different stages in their life cycles, sponges have become both physiologically and chemically complex.

Conaco used recently developed sequencing techniques to identify and measure the sponges' genes "a gold mine that we can look at to better understand how to better protect marine organisms."

She found promising and interesting genes in her sequencing of an Australian sponge during her post-doctoral training and that she hoped to take her studies further. Looking into indigenous Philippine sponges, she focused on the amphimedon, a blue sponge that can be found in Bolinao.

http://lifestyle.inquirer.net/

DOST Balik Scientist Dr. Ma. Cecilia Conaco, 2011 For Women in Science National Fellow; Luc Olivier-Marquet, L'Oreal's managing director; and Dr. Aletta Yñiguez, 2011 For Women in Science National Fellow.

She currently works with UP-MSI in the sequencing of genes so that they could mutually gain and share works and results involved in the research.

Meanwhile, Yñiguez received the FWIS National Fellowship grant for her research proposal entitled "Enhancing robustness of plankton models and monitoring systems by understanding fine-scale biophysical processes." This project intends to better understand how primary producers in the marine environment shift and contribute to the fisheries or turn into toxic blooms.

Her project aims to validate and increase the reliability of real-time monitoring platforms and remotely sensed data that will be part of a bloom-forecasting system in target sites in the country.

Phytoplanktons are the bases of the marine food chain that ultimately leads to the productivity of fisheries that many in our country rely on for their livelihood, Yñiguez said. She informed that many conditions lead these microscopic plants to become dangerous as can be observed in harmful algal blooms or HABS.

According to Dr. Yñiguez, HABS is the genetic term for the incident heading to red tide or fish kill. She detailed that these cause poisoning, fatalities, and economic losses for the country.

Through her project, she wishes to complement and improve more the government's response system with regards to the toxic blooms.

In 2010, DOST in partnership with UNESCO and L'Oréal Philippines launched FWIS National Fellowships-Philippines, a program that aims to empower and promote excellence among women scientists by recognizing their achievements and rewarding them with grants. FWIS accepts research proposals related to the Life and Material Sciences from applicants who held or pursued Master's or Ph.D. degrees in any field of science and not more than 45 years old.

Two fellowship grants worth Php400,000 each will be given to two deserving women based on the judging criteria of an esteemed jury composed of representatives from L'Oréal Philippines, UNESCO, and the DOST. Deadline for submission is March 2013.

To know more about FWIS National Fellowships – Philippines, log on to www.fwis.com.ph or email the FWIS Secretariat at FWISsecretariat@eon.com.ph or call 893-5642 local 136.

DOST's Geminiano T. de Ocampo Visionary Awards to recognize trailblazers in medical research

By ALLAN ACE W. ACLAN
S&T Media Service, *DOST-STII*

"My father used to always say that a medical researcher must have scientific spirit, not scientific profit"

Leticia de Ocampo Elegado (far right)
Daughter of National Scientist Geminiano T. de Ocampo

"THE LEGACY should be passed on to the next generation of clinical scientists," said Mrs. Leticia de Ocampo Elegado, daughter of National Scientist Geminiano T. de Ocampo during her speech in the launch of the Department of Science and Technology's medical research award last November 8, 2012 at the Hyatt Hotel and Casino Manila.

The legacy of her dad, known as the Father of Philippine Ophthalmology, is being a visionary in his field, particularly of realizing the future of medicine in the country through his pioneering practices in the research field.

And through the awards fittingly named for Dr. de Ocampo, DOST and its advisory body the National Academy of Science and Technology aim to pass on the legacy of de Ocampo by recognizing clinician researchers who made innovative visions for medical research in the country. These innovative visions are seen in their outstanding medical researches that pioneered the trail for clinical research and development.

Ocampo Elegado said that the de Ocampo family is overwhelmed on the visionary award named for her father. She then encouraged young medical scientists to continue dedicating their work for the Filipino masses.

"My father used to always say that a medical researcher must have scientific spirit, not scientific profit," she ended.

A man of many firsts, De Ocampo excelled in his chosen field of medicine, Ophthalmology.

In 1952, De Ocampo established De Ocampo Eye Hospital, the first eye hospital in the Philippines. He was the first Filipino to perform corneal transplant successfully. He is also one of the founders of Philippine Eye Research Institute, the first research institution for basic ophthalmology in 1956.

He was bestowed the rank of National Scientist in the field of Ophthalmology by the late President Ferdinand Marcos in 1982 and was acknowledged as the Father of Modern Philippine Ophthalmology.

The Germiniano T. De Ocampo Visionary Award will be conferred via DOST-NAST on Sept. 16, birthday of De Ocampo, every other year.

Nominees for the said award should be a graduate of medicine from an accredited school or college of medicine and should have remarkable track record as a clinician practicing in the Philippines.

The recipient of the award will receive a gold medal, a plaque of recognition, and a cash prize of Php 100,000. Nomination forms will be available at the NAST website www.nast.com.ph

Pinoys reap awards in China International Inventions Fair

By BILLY MALANG, Ph.D.
MINDS

A TEAM of Filipinos from Manila Innovation Development Society (MINDS), Inc., an inventor association recognize by the Department of Science and Technology-Technology Application and Promotion Institute (DOST-TAPI), won various awards for their innoventions at the 7th International Exhibition of Inventions at Kunshan, China held last month.

A combination of the terms "innovation" and "invention", an "innovention" is a product or service that has value or that which people will have good use and will translate into economic benefit.

In the Alternative Energy category for mainstream inventors, MINDS President Dr. Virgilio "Billy" L. Malang won the Gold Medal for his invention "Biogas from Water Lily", a patent-pending anaerobic digester apparatus and process for producing methane-rich biogas using juiced extract of water lily as substrate. This is a sustainable control for the spread of water lily that has infested large areas of main water bodies in the Philippines including the Laguna Lake.

In the Creative Research contest category for students, participants from Tondo High School MINDS Chapter bagged several prizes. Winners were the following: Ellaine Gulmatico and group clinched the Gold Medal for their entry "Novel Yeast from Guava Fruit for Bioethanol Production"; Gemvhie Kate Paula Lee and group for their entry "Low Temperature Melting Glasses for Fashion Accessories from Rice Hulls and Oyster Shells" and Loren Art Cayabyab and group for their entry "Novel Fabric Made from Chicken Feather Fiber Composites" slammed the Silver Medal; while Karen Joyve Ebit and Marie Minal and their group pocketed the Bronze Medal for the entries "Heat Resistant Coco Fiberglass" and "Synthesis of Urea Plastic from Human Urine", respectively.

Dr. Virgilio "Billy" Malang (center) of the Manila Innovation Development Society, Inc. (MINDS), is being congratulated by the IFIA president for winning the gold medal in the 7th International Exhibition of Inventions at Kunshan, China held November 9-12. With him are students from Tondo High School who also won several medals in the Creative Research contest category for students. MINDS is an inventor association recognized by the Department of Science and Technology-Technology Application and Promotion Institute.

Winners were selected by an international jury from among 570 entries from 39 foreign country participants. Each winner received medals and certificates for their winning innoventions.

Further, at the synchronous 88-member nation International Federation of Inventor Associations (IFIA) General Assembly and Election, Dr. Malang was unanimously re-elected to the IFIA governing board for the third time for another two-year term (2013-2014).

Hosted by the China Association of Inventions, the competition was organized by the IFIA and accredited by the World Intellectual Property Organization.

Meanwhile, TAPI is an attached agency of the DOST that takes the lead role in implementing the technology transfer and commercialization thrusts as well as in marketing the technical services offered by other DOST agencies including providing assistance to the inventors as stipulated in the RA 7459, known as Inventors and Inventions Incentive Act of the Philippines.

Science journalists get awards for biotech stories

JOURNALISTS FROM Business Mirror and Business World took the top honors at the 2012 Jose G. Burgos Jr. Awards for Biotech Journalism held Thursday, Nov. 29 at the Gateway Mall in Cubao, Quezon City.

Lyn Resurreccion of Business Mirror won the first prize in the news category for her article "Corn borer remains susceptible to Bt" while in the features category, Business World's Romer Sarmiento ranked first for his article "Genetically modified corn taking root among farmers."

Manuel Cayon, also of Business Mirror, bagged the second prize in the news category for his article "No agreement reached in first consultation of Bt eggplant testing in UP Davao City." The third prize went to Malaya's Paul Icamina for his article "Scientists hit fear tactics vs gene-modified crops.

"GM crops grown worldwide," written by Paul Icamina placed second in the features category. "PhilRice's Biotechnology head explains why Golden Rice poses no Vitamin A toxicity risk" written by Manila Times' Claire Mercado took the third prize.

In the institutional category, Business mirror placed first, followed by Manila Bulletin, and The Philippine Star.

Department of Agriculture (DA) Undersecretary Emerson Palad, the event's main guest, who was introduced by DA-Biotechnology Program Implementation Unit (BPIU) director Dr. Candida Adalla, led the awarding, along with veteran newsman Joel Paredes, who opened the ceremonies on behalf of Dr. Edita Burgos of Joe Burgos Pen Inc.

Dr. Calixto Protacio, a member of the board of judges, enlightened the audience on the process undertaken in the selection of winners.

Interaksyon.com managing editor Lourdes Molina-Fernandez is the board's chairperson.

The event, now on its seventh year, was organized by The Burgos Pen Inc., Biotechnology Coalition of the Philippines and the Biotechnology for Life Media and Advocacy Resource Center in partnership with the DA-BPIU and Philippine Agriculture and Resources Research Foundation Inc.

SOURCE: BioLife News

(From left) Biotechnology for Life Media and Advocacy Resource Center (BMARC) Program Director Joel Paredes, Department of Agriculture-Bureau of Plant Industry (DA-BPI) Director Clarito Barron, Agriculture Undersecretary Emerson Palad, winners Manuel Cayon of Business Mirror, Claire Mercado of Manila Times and Lyn Resurreccion of Business Mirror, Dr. Jocelyn Eusebio, a member of the board of judges, Department of Agriculture-Biotechnology Program Implementation Unit (DA-BPIU) Director Dr. Candida Adalla, contest judge Dr. Calixto Protacio and Jenny Panopio of the Southeast Asian Regional Center for Graduate Study and Research in Agriculture-Biotechnology Information Center (SEARCA-BIC) at the awarding ceremonies of the 2012 Jose G. Burgos Jr. Awards for Biotech Journalism held on Nov. 29 at Gateway Suites in Cubao, Quezon City.

2012 Science Film Festival (ScFF)'s first lucky viewers. If being the first to see a few of the superb films featured in the ASEAN ScFF isn't cool enough, students from the St. Michael Academy of Bulacan also get to have their picture taken beside the organizers after the initial screening at the Mind Museum. Now on its third year in the Philippines, the ScFF aims to open kids' minds—and hopefully adults' as well—to the pressing issues of society and inspire them to think of ways to address these through science. This years' ScFF's theme "Water for Life" it underscores the United Nation's Decade for Water Action (2005-2015). In photo are officials and representatives from DOST Science Education Institute, Goethe-Institut, the Embassy of France, Museo Pambata, the National Museum, The Mind Museum, Felta Multimedia, Inc., ABS-CBN Foundation Inc., Quezon City Science Interactive Center, Manila Ocean Park, Nido Fortified Science Discovery Center, Philippine Science Centrum, ASEAN Center for Biodiversity, and the German Agency for international cooperation. *(Photo by Mario D. Melgar, S&T Media Service)*

DOST-sponsored Science Film Festival cascades importance of water

By GEORGE ROBERT E. VALENCIA III
S&T Media Service, *STII*

NOW ON its third year in the Philippines, the ASEAN Science Film Festival (ScFF) continues to put across important messages to appeal to a broader audience through film. The 2012 ScFF has the theme "Water for Life" in keeping with the United Nations (UN) International Decade for Action Water (2005-2015). The festival also aims to preview 2013 as UN's International Year of Water Cooperation.

Running from the third to fourth week of November, the ScFF comprises over a hundred award-winning documentaries, features, and awe-inspiring investigative reports from around the world that aim to make an impression to audiences of different ages. They tackle different topics in ecology, earth science, environment protection, water-related science and technologies, family edutainment, and important contemporary concerns like climate change.

The showing of the 2012 ScFF in the country is through the cooperation of the Science Education Institute of the Department of Science and Technology (DOST-SEI), the Goethe-Institut Philippinen, the Department of Education, ABS-CBN Foundation, Inc., the United Nations Educational, Scientific and Cultural Organization or UNESCO, and other partners.

According to German Ambassador to the Philippines Dr. Joachim Heidorn, the 2012 ScFF "supports children's interest in dealing with scientific and environmental problems and encourage them to find means to address the ecological issues of the country."

Meanwhile, the UN estimates that nearly two in 10 people have no source of safe drinking water while millions die—mostly children under five—from diseases associated with inadequate water supply, sanitation, and hygiene.

Also, according to oceanographer Dr. Laura T. David of the University of the Philippines' Marine Science Institute, water resources in the Philippines are being stretched to the limit through overfishing, destructive fishing, coastal development, pollution, sedimentation, and climate change.

"We support the 2012 ScFF as it contributes in making Filipinos aware and knowledgeable on the proper use and sustainable management of our water resources. The Philippines houses a big portion of the Coral Triangle, has rich water resources, and shall benefit greatly from an educated citizenry," added DOST-SEI Director Dr. Filma Brawner.

The 2012 ScFF runs in nine venues across Metro Manila, namely at the DOST Complex in Taguig City, Manila Ocean Park, The Mind Museum, Museo Pambata, the National Library, Quezon City Science Interactive Center, Philippine Science Centrum, ASEAN Center of Biodiversity, and the Science Discovery Center at the SM Mall of Asia.

An original initiative of Goethe-Institut for the ASEAN Region, the ScFF is also simultaneously held in neighbor countries, namely, Indonesia, Malaysia, Thailand, and Cambodia.

At the Calamansi Processing Facility in Roxas, Oriental Mindoro, Department of Science and Technology MIMAROPA Regional Director Ma. Josefina Abilay (center) and Oriental Mindoro Representative Reynaldo Umali (left) proudly show the ready-to-drink calamansi juice or concentrate produced at the facility.

Tech intervention results in calamansi juice plus

By JESSE M. PINE
DOST-PSTD, *Oriental Mindoro*

ROXAS, ORIENTAL Mindoro – While calamansi grows abundantly in this town, farmers have problems with low prices of their fresh harvest at the local market, especially during peak seasons.

To give the farmers, particularly the members of Oriental Mindoro Calamansi Producers Association (OMCPA), an alternative market, a Calamansi Processing Facility was recently launched in the area through the collective efforts of the Department of Science and Technology (DOST), Department of Labor and Employment (DOLE), and second legislative district of Oriental Mindoro.

The facility will process and develop new products out of fresh fruit. "It will not only produce ready-to-drink calamansi juice or concentrate. The peel and other parts of calamansi fruit have other uses as well. They can sell their products to health-conscious consumers at higher prices when sweetened with honey or coco sugar," said DOST MIMAROPA Director Ma. Josefina Abilay.

DOST-MIMAROPA provided assistance amounting to PhP 417,500 for the acquisition of fruit processing technologies such as hydraulic press, double-jacketed kettle, and dispenser; DOLE MIMAROPA provided production accessories and additional capital worth PhP 300,000; and the Office of Oriental Mindoro Representative Reynaldo Umali provided the building, including electricity and water supply estimated at around PhP 1.4M.

The project aims to generate employment opportunities and alternative source of livelihood for the beneficiaries including women in the area, said Oriental Mindoro Representative Reynaldo Umali and DOLE MIMAROPA Director Ma. Zenaida Eusebia Angara.

OMCPA President German Rodegerio pledged that their association will continuously persevere to make the project a good example for other municipalities in the province.

During the facility's launching last September, Avelino Tejada of Provincial Government of Oriental Mindoro also announced the upcoming opening of Oriental Mindoro Toll Packaging and Innovation Center, the first facility in the province that will cater to producers, processors or manufacturers who need packaging and label design improvement for their products. Avelino said the project will significantly help enhance the marketability and quality of Oriental Mindoro's products including calamansi juice, concentrate, and the like.

NOW SERVING: **STARBOOKS installed in Zambo schools, LGUs**

Zamboanga Peninsula became the latest beneficiary of STARBOOKS as the stand-alone information kiosks developed by DOST were installed in some 18 high schools, colleges, and LGUs within the region.

The STARBOOKS kiosk station, or the Science and Technology Academic and Research-Based Openly-Operated Kiosk Station, is a repository of science and technology resources including livelihood videos, sourced from around the world.

By THELMA E. DIEGO
S&T Media Service, *DOST-IX*

ZAMBOANGA PENINSULA - Eighteen schools and learning resource centers in this region have availed of the Science and Technology Academic and Research-Based Openly-Operated Kiosk Station (STARBOOKS), the country's first science digital library developed by the Department of Science and Technology's (DOST) Science and Technology Information Institute.

STARBOOKS was launched in November last year in Region IX. So far, 11 kiosks have been installedby the DOST through its regional office in Zamboanga City inseveral secondary schools including the Regional Science HS, Zamboanga City HS (main), Ayala National HS, Vitali National HS, Talon-Talon National HS, Maria Clara Lobregat L. National HS, Sibugay National HS, La Dicha National HS, Zamboanga del Sur National HS, Lantungan National HS, and Dapitan City National HS.

While Zamboanga State College of Marine Science and Technology set up one STARBOOKS kiosk, Western Mindanao State University availed of three for its university library, agriculture college, and external studies unit based in Siay, Zamboanga Sibugay. Technical Education and Skills Development Authority's Regional Training Center, and the local governmentof Molave, Zamboanga del Sur's eCommunity Center also installed one kiosk each.

STARBOOKS is a standalone information kiosk that contains thousands of digitized science and technology (S&T) resources gathered from all over the world. It is a mobile library where users can access books, journals, scientific researches, and data contained at the Science Information Network or the consortium of libraries and information centers of the DOST, free of charge.

Besides resources for academic use, STARBOOKS features videos dubbed "Tamang DOSTkarte Livelihood Videos" on technologies that are ripe for commercialization and appropriate for budding entrepreneurs. This is in line with one of the goals of DOST's STARBOOKS which is to spur a new wave of S&T enthusiasts and entrepreneurs in the country.

Further, DOST Region IX continuously receives requests to avail of STARBOOKS from other learning institutions in the region. DOST requires requesting parties tomeet the hardware requirements to avail of installation services. For inquiries, interested parties may call DOST Region IX office at 991-1024.

Tilapia program bats for better look, bigger outlook for the Red Nile Tilapia

By LOREEDA C. DARVIN
S&T Media Service, *DOST-PCAARRD*

THE COLOR red seems to catch even the fancy of fish consumers. The red sea bream, red snapper, and grouper all command good market but are highly priced.

Thus, the Department of Science and Technology-Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development's (DOST-PCAARRD) "National Tilapia Research and Development Program" banks on the good prospects in offering red tilapia as a cheaper alternative fish to high-priced marine species.

With funding from DOST, Dr. Tereso A. Abella, director of the Central Luzon State University-Freshwater Aquaculture Center (CLSU-FAC), is leading a program to improve the color and growth potential of the Red Nile Tilapia, a strain developed from a blond mutant of the Nile tilapia.

The red tilapia was first introduced in the Philippines from Singapore in 1978. To date, at least three variant strains of red tilapia are grown commercially in the country, namely: Taiwanese red, Florida red, and Israeli red.

The industry, however, is sluggish, hampered both by lack of readily available fingerlings and the slower growth of red tilapia compared to the grey or Nile tilapia. This slow growth is attributed to the presence of genes from the slow-growing Mossambique tilapia.

The Red Nile Tilapia at FAC, on the other hand, came from the crosses of Nile tilapia with blond phenotypes brought home from the Institute of Sterling in the United Kingdom.

Region 8 celebrates jackfruit FIESTA

By BUTCH S. PAGCALIWAGAN
S&T Media Service, *DOST-PCAARRD*

BAYBAY, Leyte — Stakeholders of the jackfruit industry in Region 8 recently convened at the Visayas State University (VSU) Convention Center for the first-ever Jackfuit FIESTA.

FIESTA stands for Farmer-Industry Encounters through the Science and Technology Agenda, a technology promotion modality of the Department of Science and Technology's Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD).

The Visayas Consortium for Agriculture and Resources Program (ViCARP) spearheaded the celebration with the theme "Changing lives through jackfruit science and technology".

"Way back in 1995, jackfruit was identified as the banner crop of the Eastern Visayas", said VSU President Jose L. Bacusmo during the opening ceremonies.

Bacusmo explained that over time, the area planted to jackfruit increased in the region. As of 2010, a total 51, 865 trees were reportedly planted covering 332 hectares.

The South Luzon Cluster Fair featured several interesting activities including project visit, seminar on Program NOAH, exhibits, research coloquium, science quiz, and poster making contest. In photo: DOST III Regional Director Victor Mariano (leftmost) and Undersecretary for Regional Operations Carol M. Yorobe (third from left) with special guests. **(Framelia V. Anonas, S&T Media Service, STII)**

Little Scholar Hopeful. He may just be a little above three feet in height but Kent Dominique C. Solitarios, 15, of Tarangnan, Western Samar, shows his towering hope as he takes the nationwide 2013 S&T Scholarship Examination this November at the Samar National High School in Catbalogan, Western Samar. Conducted yearly by the Department of Science and Technology's Science Education Institute, the examination gives equal opportunities to the youth interested in taking up careers in science, technology, and engineering. **(Henry A. de Leon, S&T Media Service, STII)**

DOST scholar's return service. Rolly Rulete, Bachelor of Science in Computer Science graduate (Batch 2001) and scholar of Science Education Institute of the Department of Science and Technology (DOST-SEI) developed the NOAH (Nationwide Operational Assessment of Hazards) apps for Android devices. Rulete and his teammates use data from the DOST's Philippine Atmospheric, Geophysical, and Astronomical Services Administration (DOST-PAGASA) to come up with the mobile version of the NOAH website (noah.dost.gov.ph) minus the flood map features. DOST launched the Program NOAH app in October this year with Smart Communications, Inc. through the Smart Development Network to provide the general public with real-time weather information anytime, anywhere through Android mobile phones. **(Ceajay N. Valerio, S&T Media Service, STII)**

The Information and Communications Technology Office of Department of Science and Technology (DOST-ICTO), in collaboration with the Statistical Research and Training Center (SRTC), launched the ICT Industry Mapping Project last December 03, 2012 at ICTO Audio Visual Room, C.P Garcia Avenue, Diliman,Quezon City. The said project under ICTO's Domestic ICT Industry Development will integrate vital information needed to develop strategic ICT industry programs that would help increase the potential of the ICT industry and its impact on the country's socio economic development. The mapping project aims to describe and examine the state and performance of the ICT industry as a whole and by segments, measure employment and income contribution, and identify the sector or segment needs that are not yet addressed by government policies and programs. From left: Charlie Labina, Iris Ivy Gauran, Kevin Carl Santos, Dr. Erniel Barrios (Project Leader), Angela dela Paz-Nalica,Michael Daniel Lucagbo, Joseph Ryan Lansangan and Genelyn Ma. Sarte (Assistant Project Leader). **(Allan Mauro V. Marfal, S&T Media Service, STII)**

Deputy Executive Director for ICT Industry Development of ICTO Alejandro P. Melchor III discusses the importance of ICT in boosting the country's economy during the launching of ICT Industry Mapping Project last December 03, 2012 at ICTO Audio Visual Room, C.P Garcia Avenue, Diliman, Quezon City. He said the ICT could empower numerous industries in the country, especially with the flagship program that DOST is set to launch called Smarter Philippines. This program seeks to use ICT more as an enabling factor in providing more efficient and reliable services in some priority industries in the country. Some of its objectives are to describe and examine the state and performance of the ICT industry as a whole and by segments, measuring employment and income contribution and identify the sector or segment needs that have not yet been addressed by Government policies and programs. **(Allan Mauro V. Marfal, S&T Media Service, STII).**

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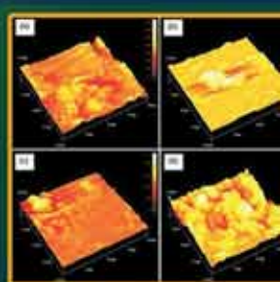

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