

SEARCA-DAAD alumni contribute to crafting Center's food security agenda

As SEARCA starts to sharpen its food security agenda, it turns to one of its most important assets—its graduate alumni. In the recently concluded SEARCA-DAAD Alumni Associations Regional Consultative Workshop on 28-29 May 2013 at SEARCA, Los Baños, Laguna, close to forty graduate alumni association officers and representatives from all over the region found their way back to what they considered their second home. The programs kicked-off with a welcome message from SEARCA Director, Dr. Gil C. Saguiguit Jr., which was immediately followed by the opening remarks from the University of the Philippines Los Baños (UPLB) Chancellor Dr. Rex Victor O. Cruz, which



SEARCA Graduate alumni from Cambodia, Lao PDR, Indonesia, Myanmar, the Philippines, Thailand and Vietnam gather for the two-day workshop on food security.

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was delivered by Dr. Cristanto Dorado, UPLB's Vice Chancellor for Administration. In his welcome message, Dr. Saguiguit emphasized the critical role of the graduate alumni as SEARCA's most valuable partner in the Center's various endeavors. On the other hand, Dr. Dorado reiterated UPLB's support to SEARCA, as an active member of the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC) and home to most of the SEARCA scholars, especially amidst regional developments such as the ASEAN Economic Community in 2015.

Meanwhile, Ms. Ilona Krueger, Head, South and Southeast Asia Section of the German Academic Exchange Service (DAAD), the co-sponsor of the event, anticipated that the event become an important platform for a fruitful exchange among DAAD and SEARCA alumni.

The opening program highlight was Dr. Saguiguit's keynote speech titled *Championing Sustainable Agricultural and Rural Development towards Food*

Security in Southeast Asia, which set the tone for the workshop and outlined the Center's food security initiatives for the coming years as well as the role of the alumni in this strategic direction.

Dr. Saguiguit's presentation was then followed by two plenary papers, namely *Challenges and Opportunities in ASEAN Agricultural Higher Education: Implications to Food Security* by Dr. Cecilio R. Arboleda, Executive Director of UPLB Foundation, Inc., and *Meta-Analysis of SEARCA's Food Security Researches: Approach and Initial Findings* by Dr. Dinah Pura T. Depositario, Associate Professor from the College of Economics and Management, UPLB, who incidentally is also a SEARCA alumna and now an adjunct fellow of the Center.

Eight country representatives presented papers on a food security initiative or country situationer in two parallel

UPM honors two former Vice Chancellors

Universiti Putra Malaysia (UPM) bestowed the “Putra Special Academic Award,” to two of its former Vice-Chancellors, in recognition of their outstanding contributions to the development and advancement of the university and the nation.

The two former Vice-Chancellors, Prof. Dato’ Ir. Dr. Radin Umar Radin Sohadi and Prof. Tan Sri Datuk Dr. Nik Mustapha R. Abdullah, received the award from the Sultan of Selangor and UPM Chancellor, Sultan Sharafuddin Idris Shah.

The recognition was given during the award ceremony called “Majlis Gemilang Academia Putra - MGAP,” which also conferred the Vice-Chancellor’s Fellowships Award 2012 to 13 academic and 2 non-academic staff of the university, while another academician received the Outstanding Consultant Award.

“This is in line with the mission of the



Photo courtesy of www.upm.edu.my

university to give meaningful contributions towards the creation of wealth and development of the nation and people through the exploration and dissemination of knowledge,” said Prof Datuk Dr Mohd Fauzi bin Haji Ramlan, UPM Vice-Chancellor.

“These efforts will also boost UPM’s excellence and create a positive image at the global stage towards making us a university of international repute,” he added.

Source: UPM News | 9 May 2013

PHOTO RELEASE



Officials from the Department of Student Affairs, Ministry of Education and Sports of Lao PDR, accompanied by a representative from the Office of Higher Education Commission, the Ministry of Education, Thailand, visited Kasetsart University (KU) on 25 April 2013. Mr. Somsakdi Tabtimthong (fourth from left), Director of KU’s International Affairs Division discussed about international policy of KU as well as interesting international activities such as exchange of students, faculty and staff.

Photo courtesy of:
www.intaff.ku.ac.th

IPB and UPM renew ties

The Memorandum of Cooperation (MoC) between Institut Pertanian Bogor (IPB) and Universiti Putra Malaysia (UPM) was signed on 14 June 2013 at the IPB Darmaga Campus. Dr. Herry Suhardiyanto, Rector of IPB, conveyed that the said cooperation, which originally started with student exchange, would be strengthened along the theme of the ASEAN Economic Community. Moreover, the MoC would be the basis for collaborative activities towards addressing food security, including advocacies to further develop agriculture in the countries of Southeast Asia.

In connection with the efforts on food security advocacy, Prof. Datuk Dr. Mohd Fauzi Ramlan, UPM Vice Chancellor is scheduled for a 5-day meeting at IPB in September 2013, the result of which will be an important input for an ASEAN-level congregation.

In the area of scholarship, UPM suggested that IPB look into the Erasmus Mundus and the USA-Michigan research scholarship program.

It is also expected for IPB and UPM to finalize its Dual Degree Program soon. This will then enable students to receive graduate degrees at both academic institutions.

Source: IPB News | 17 June 2013



UPM and University of Newcastle to offer joint post graduate degree programs



The Universiti Putra Malaysia (UPM) marked a new milestone by teaming up with the renowned University of Newcastle of Australia to jointly offer post-graduate studies where the degrees conferred will bear the crests and authorizing signatures of the two universities.

The Memorandum of Agreement (MoA) on the Jointly Awarded Research Higher Degree Programmes (JARHDPs) was signed by the UPM Vice Chancellor Prof Datuk Dr Mohd Fauzi Ramlan and the Vice Chancellor and President of the University of Newcastle, Prof Caroline McMillan, on behalf of their respective institutions.

The signing of the JARHDP, the first by a Malaysian university, was witnessed by the Dean of the School of Graduate Studies of UPM, Prof Dr Bujang Kim Huat and the Pro-Vice Chancellor (Singapore) of the University of Newcastle, Prof Amir Mahmood.

In the ten-year agreement, a student applying to study at either university will be accepted into the JARHDP once both parties have agreed in writing to the candidate's proposal for the post-graduate studies. Candidates who are currently registered at either university shall be permitted to transfer to JARHDP with the approval of both parties and all supervisors.

The MoA further states that the candidate's proposal must identify the resources to be provided by both parties, and that during periods of attendance at its campuses by a student undertaking JARHDP, each party agrees to provide the project resources specified in the approved candidate's proposal. Both parties agree that the candidates are required to attend school at the host institution for a minimum of one full academic year and a maximum of two full-time equivalent academic years, in order to be eligible for JARHDP. Likewise, while candidates may be exempted from paying tuition fees at Newcastle, candidates in UPM may be required to pay UPM's fees, including insurance and incidental expenses. It was also agreed that all JARHDP projects involving human and animal research must obtain prior approval from their relevant ethics committee.

This programme with the University of Newcastle is the latest addition to the Dual Degree/Jointly Awarded Research Degree that UPM is offering in cooperation with other international universities such as the University of Sheffield, University of Nottingham, Ajou University, Kyushu Institute of Technology, and Jordan University of Science and Technology.

Source: UPM News | 10 June 2013

New role for UPM's agriculture farm on campus

Many ordinary folks still think of the Taman Pertanian Universiti (TPU or University Agriculture Park) as the 426 hectares of sprawling land that has been devoted to agriculture and animal husbandry for education, research, and training purposes for more than half a century. But to the many UPM agricultural graduates who have sharpened their skills at the “farm,” it is the test bed of Malaysian agriculture where many of today’s nation builders have honed their skills and knowledge in agriculture, such as in developing the very successful rubber and palm oil industry of Malaysia and in guiding the paddy farmers of Kedah and Perlis to undertake double cropping in the 1960s, thus improving the lives of the farmers.

“The farm has had its good and bad days, its ups and downs,” said Prof Dr Abdul Shukor Juraimi, Dean of the Faculty of Agriculture, as he outlined the new role of the TPU in the coming days.

In the past, the farm was abundant with coffee, tea, and cocoa, aside from rubber and palm oil. Its fruit orchards where durian and rambutan fruits were propagated made UPM well-known among the folks in the Klang Valley.

However, when the government changed



Photo courtesy of www.upm.edu.my

its economic focus from agriculture to industry, the farm which was a cost centre was relegated to a minor role.

“But with the new Vice Chancellor, Prof Datuk Dr Mohd Fauzi Ramlan, we are given the task of transforming the farm to make it profitable and sustainable,” said Dr Shukor, adding that agriculture is still UPM’s niche and core business.

“We have to look into how we can generate better returns so that the students can immerse themselves and learn farm management, ROI (returns on investment) and what it takes, for example, to maintain a hectare of palm oil plantation. We know we may not be as competitive as the private sector but the UPM farm should be able to run on its own steam and continue to be a test bed for Malaysian agriculture,” he said.

Dr. Shukor was also quick to add that the transformation would not be an easy task and is likely to take some years to achieve. For instance, 20 years ago when UPM experts started working on cantaloupes, the first local cultivars developed were bland. Now, the home-grown variety has attained sweetness of 12 or 13 brix (a measurement of sugar in the fruit), similar to the imported ones.

Another feather in the farm’s cap is the *saTiri* turf grass, now used in Templer’s Park, Damai Golf Club, and UPM golf course, Bayu lawn bowl in Klang, and the Sepang lawn bowl, among others. Dubbed as the super dwarf grass, its darker green color lends a more luxurious look to golf courses, not to mention its tolerance to water stress and shade.

A cross-breed between the Malayan fowl or *ayam kampung* with their wild cousins (*ayam hutan* or jungle fowl), was also developed at the farm. The new breed called *akar putra* is bigger and grows faster.

It was also in the farm that UPM scientists were able to successfully propagate orchids through tissue culture. The method, which had trickled down to private orchid farms today, ensures that the orchid flowers are the same as that of the mother plant.

Nowadays, a drive around the farm with its valleys, streams, ponds, and lakes is a refreshing experience and takes about 20 minutes by car from Kuala Lumpur.

As a service sector, TPU’s role is to provide UPM’s institutes and faculties their raw material requirements. Hj Abdul Ghani Hashim, Divisional Head of TPU, said that the farm has been serving 13 institutes and faculties, which have a combined total of 26 courses. With an average of 80 students per course, there have been around 2,080 students who would make use of the farm as a test bed for their studies and research work.

The facilities in the farm could be used for research depending on their areas of studies. For example, there are machineries that can plough fields - 76 hectares for nursery, horticulture, and floriculture for those keen on flowers and decorative plants; 54 hectares of palm oil; 3.5 hectares for covered sheds for poultry farming; and 100 hectares for vegetable, goat, deer, horse, or equine farming.



See New role, p. 6

“Fish thermometer” reveals long-standing, global impact of climate change

Climate change has been impacting global fisheries for the past four decades by driving species towards cooler, deeper waters, according to University of British Columbia scientists.

In a Nature study published this week, UBC researchers used temperature preferences of fish and other marine species as a sort of “thermometer” to assess effects of climate change on the world’s oceans between 1970 and 2006.

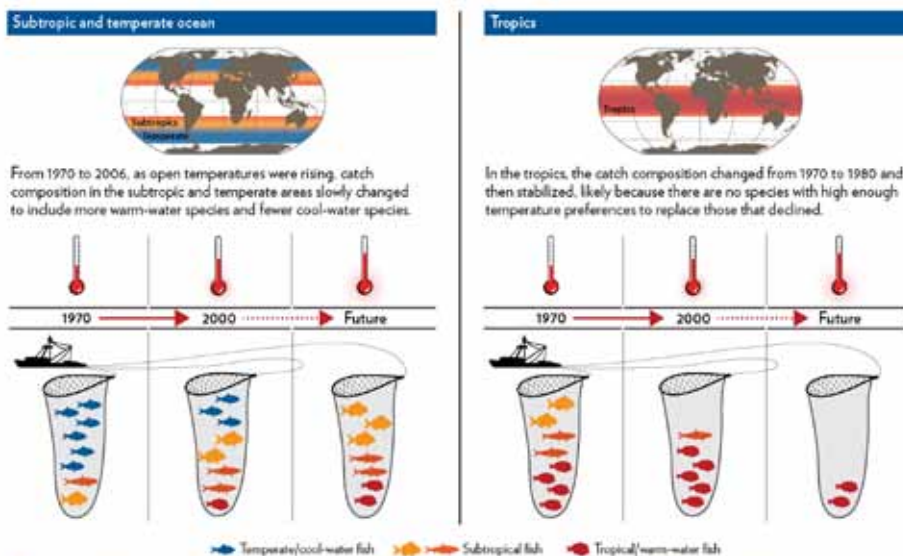
They found that global fisheries catches were increasingly dominated by warm-water species as a result of fish migrating towards the poles in response to rising ocean temperatures.

“One way for marine animals to respond to ocean warming is by moving to cooler regions,” says the study’s lead author William Cheung, an assistant professor at UBC’s Fisheries Centre. “As a result, places like New England on the northeast coast of the U.S. saw new species typically found in warmer waters, closer to the tropics.

“Meanwhile in the tropics, climate change meant fewer marine species and reduced catches, with serious implications for food security.”

Warming Oceans Are Reshaping Fisheries

Marine species are gradually moving away from the equator into cooler waters, and, as a result, species from warmer waters are replacing those traditionally caught in many fisheries worldwide. Scientific studies show that this change is related to increasing ocean temperatures.



These shifts could have negative effects including loss of traditional fisheries, decreases in profits and jobs, conflicts over new fisheries that emerge because of distribution shifts, food security concerns, and a large decrease in catch in the tropics.

This graphic presents concepts from Cheung, WWL, R. Watson and D. Pauly 2013, Signature of ocean warming in global fisheries catch, Nature, DOI:10.1038/nature12156. The thermometers are representative of trends in ocean temperature over time and the fish are representative of trends in catch composition over time. They do not represent specific values. Please consult the results section of Cheung et al. (2013) for exact data points. Graphic by The Pew Charitable Trusts' ocean science division, www.pewenvironment.org/research-programs

“We’ve been talking about climate change as if it’s something that’s going to happen in the distant future - our study shows that it has been affecting our fisheries and oceans for decades,” says Daniel Pauly, principal investigator with UBC’s

Sea Around Us Project and the study’s co-author. “These global changes have implications for everyone in every part of the planet.”

Source: UBC Media Release | 15 May 2013



UGM develops Melodi Gama 3 as melon resilient to climate extremes

High population growth has caused increase in demand of agricultural products. However, due to climate change, there has been a decline in agricultural production, which has been threatening national food security.

Melon (*Cucumis melo* L.) from the Cucurbitaceae family is considered one of Indonesia’s most important agricultural products. At the Universitas Gadjah Mada (UGM), a melon variety has been developed to withstand extreme weather conditions, among other features. The Melodi Gama 3 (MG 3) was developed by a team of researchers from UGM’s Faculty of Biology. The research is funded by the Indonesian Directorate General of Higher Education through the Masterplan of Acceleration and Extension of Indonesian Economic Development (MP3EI).

In his report, Dr. Budi S. Daryono, head of the research team said that the harvest of the cultivar at the Agricultural Research and Development Station (KP4) yielded up to 40 tons per hectare even under extreme weather conditions.

Aside from being climate resilient, MG 3 is resistant to powdery mildew that often attacks melons. It is also tolerant to diseases caused by virus, including Kyuri green mottle mosaic virus (KGMMV). With these, farmers can save on insecticides and fungicides.

MG 3 also has its nutritional benefits; it contains beta carotene, is sweet and aromatic, and can be stored longer.

Source: UGM News Release | 29 May 2013

New role, from p. 4

While the main functions of the farm are for teaching and research, Prof. Dr Abd. Wahid Haron, Director of TPU, has been thinking of income-generating activities, especially from the farm's fruits and vegetables. Rare fruits and herbs, like the Brazilian nuts, nutmeg, and the "mahkota dewa", a small tree with fruits said to be a potent cure for high-blood pressure and cholesterol, abound in the farm.

At present, TPU sells their farm produce at a sales office within the campus and people in-the-know would buy fresh fruits, vegetables, fish, and meat like chickens and quails, as well as compost and saplings of fruit trees.

The TPU vegetable farm is accredited by the Agriculture Department for demonstrating best farming practices.

"We also send our excess produce to

our Food Science and Technology Faculty to market or for use in their L'apprenti Restaurant as food ingredients," Dr. Wahid said.

Dr. Wahid said that TPU is looking forward to supporting the Faculty of Agriculture in their urban agriculture campaign in the coming months.

Source: UPM News | 24 April 2013

SEARCA-DAAD, from p. 1

sessions—one group consisting of the Philippines, Indonesia, Thailand; while Cambodia, Lao PDR, Myanmar, Vietnam, and Timor Leste composed the second group. These presentations laid the groundwork to enable the two groups to develop draft concept proposals focused on community-based pilot-testing of innovative and integrated agricultural systems. According to Dr. Saguiguit, these draft concept proposals are very relevant particularly in light of SEARCA's new directions. When refined these regional projects can be considered as part of SEARCA's arsenal to help steer the Southeast Asian nations towards inclusive and sustainable agricultural and rural development. Moreover, SEARCA can leverage on the presence of alumni associations in its other regional initiatives.

The election of the Regional SEARCA Fellows Association (RSFA) was held towards the end of the workshop where a President, Vice President, Secretary and Public Relations Officer were elected.

The two-day SEARCA alumni event with the theme, "Operation One ASEAN: Towards Food Security in 2020," was co-sponsored by the German Academic Exchange Service (DAAD). Aside from exchanging knowledge and best practices in food security among ASEAN countries, the event was likewise an avenue for SEARCA to renew its ties with its graduate alumni, which to date stands at 1,322. Many of these graduate alumni now occupy positions of influence in their respective institutions and countries.



The University Consortium

The Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources is a network of higher education institutions launched on 19 September 1989 by SEARCA.

The idea of having such a network was formed in August 1988 when SEARCA convened a meeting of deans of five leading agricultural graduate schools in the region. The deans noted a rising demand for graduate education across all agricultural disciplines and related fields, strong agricultural and demographic pressures, and tremendous growth in education, and agreed to the idea of establishing a University Consortium.

The objectives of the Consortium are:

1. To provide highly trained personnel in agriculture and natural resources for national development of Southeast Asian countries.
2. To promote mutually beneficial cooperation among agricultural universities in the region.
3. To utilize more fully and efficiently the scarce resources and expertise available in each country in the region for top-quality graduate education and research.
4. To stimulate freer sharing and exchange of information, facilities, and expertise among agricultural universities in the region.

SEARCA has served as the Consortium's Secretariat since 1989. Its founding members are Universitas Gadjah Mada (UGM) and Institut Pertanian Bogor (IPB), both in Indonesia; Universiti Putra Malaysia (UPM) in Malaysia; University of the Philippines Los Baños (UPLB) in the Philippines; and Kasetsart University (KU) in Thailand. Four associate members joined the network, namely: University of British Columbia (UBC) in Canada, University of Queensland (UQ) in Australia, Georg-August University of Göttingen (GAUG) in Germany, and Tokyo University of Agriculture (TUA) in Japan.

The vision of the University Consortium is to be a leader in implementing collaborative strategies for excellent graduate education and cutting-edge research in agriculture, environment, and natural resources for the benefit of Southeast Asia.

The Consortium has five components, namely: student exchanges, faculty visits, research fellowships, professorial chairs, and thesis grants.

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UPLB looks at bacteria to clean wastewater



“By the simple idea of negatively charged polymers attaching to positively charged ions, we actually have a potential to remove heavy metal ions from waste water,”

Philippine experts will be counting on an unlikely ally to help clean up the country's polluted water systems - bacteria.

A research being conducted by the University of the Philippines in Los Baños (UPLB) and funded by the Department of Science and Technology (DoST) is looking at certain types of bacteria to help improve wastewater quality.

A team headed by Prof. Arlene Llamado from the Institute of Biological Sciences, College of Agriculture at UPLB assessed the bacteria's potential in wastewater treatment applications.

Llamado's team isolated five bacteria cultures taken from the soil of an abandoned mine site in Mogpog, Marinduque, Central Philippines, to determine if these can form biofilms.

A biofilm is the slimy substance similar to slime on un-brushed teeth or the film on top of leftover soup. They are secreted by certain types of bacteria. In hospital settings, biofilm-forming bacteria are notorious for infections because they are resistant to antibiotics and cleaning agents.

While biofilms are by themselves

unclean and make living things prone to infections, their potential as agents for eliminating other hazardous materials lie in their ability to attract positively charged metal ions such as those found in effluent wastewater. These can also be found in abandoned or contaminated mining sites.

The researchers wanted to leverage the ability of microorganisms to form biofilms as they are negatively charged and can, therefore, attach to positively-charged metal ions.

“By the simple idea of negatively charged polymers attaching to positively charged ions, we actually have a potential to remove heavy metal ions from waste water,” Llamado said.

Cleaning oil spills

It is known that such bacteria can be used to remove oil spills. Llamado added that they had collected samples from abandoned mining sites where there is a low concentration of organic elements and high concentration of copper because they expected that bacteria living in these soils would be resistant to heavy metals.

“All of the bacteria samples isolated from the site exhibited ability to produce

biofilms. Further evaluation showed that all of these isolates were capable of removing heavy metals in water-copper solution. The planktonic cells of each bacterial isolate ate up the copper within six hours of contact time,” she said.

According to Llamado, further studies are under way to test the ability of these bacterial isolates in removing metals in wastewater.

If the tests deliver results, there is a strong chance that bacteria could be used not only to clean up abandoned mine sites but also contaminated river systems and tributaries.

Source: UPLB in the News | 31 May 2013



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