

UNIVERSITY CONSORTIUM

A quarterly newsletter for the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources

SEARCA welcomes its ninth director

Dr. **Gil C. Saguiguit, Jr.** succeeds the headship of the regional center from Dr. **Arsenio M. Balisacan** who completed his second term on 13 July 2009.

Dr. Saguiguit carries with him three decades of experience and institutional memory on SEARCA operations and programs. He began his career at SEARCA as a student assistant of the SEARCA-Harvard 928-B Corn Commodity Systems project in 1974. He rose through the ranks, occupying various technical and administrative positions in the Center. Most of his career in the Center has been spent developing and implementing collaborations in research and development with foreign and international partners and donors. He was appointed Head of the Environment and Rural Development Unit in 1991, Manager of the Research and Development Office in 1995, and Deputy Director for Administration in 2002, a position he held until his recent selection as SEARCA Director. As researcher and research manager, Dr. Saguiguit worked mostly on community-based natural resource management, north-south collaborative research, and agricultural and rural development.

Dr. Saguiguit has numerous published works and has presented papers in national and international fora and scientific conferences on the mentioned

subjects. He has also received recognition and awards for his management and leadership of agricultural development projects. Currently, he is also member of the National Technical Panel on Agricultural Education of the Commission on Higher Education of the Philippines and has served on numerous advisory, management, and implementation bodies of development programs in the Philippines and other multi-country programs in Southeast Asia.

As Deputy Director for Administration of SEARCA, Dr. Saguiguit was at the forefront of efforts to improve the Center's operations, including the computerization of its financial management system as well as maintenance and renovation of SEARCA's physical structures. It was also during his watch as deputy that University of the Philippines Los Banos (UPLB) renewed its agreement with SEARCA to host the Center for another 25 years. Dr. Saguiguit has been serving as the Center's Treasurer the past six years and has contributed to SEARCA's financial stability.

Dr. Saguiguit holds a doctorate in Rural Economics from the University of Montpellier in France, obtained through a French Government scholarship, and MS



Dr. Gil C. Saguiguit, Jr. is SEARCA's ninth director.

and BS degrees in agricultural economics and agriculture, respectively, from UPLB. He obtained his Masters degree under a scholarship provided by the Fellowship in the Region Program of the Netherlands Government. He has participated and attended many special trainings to hone his development skills and expertise including an Agribusiness Training from a Harvard program and the prestigious Beahrs Environmental Leadership Program (ELP) in the University of California-Berkeley, to name a few.

Dr. Saguiguit is the only son and namesake of the late Dr. **Gil F. Saguiguit, Sr.**, renowned professor of agricultural education, institution builder, and one of the founding fathers of SEARCA. (MAFABad)

World's leading bioenergy experts attend UBC confab

The latest advances in bioenergy and feasibility of biofuels in the commercial marketplace were discussed and debated by the world's leading experts who participated in the International Energy Agency (IEA) Bioenergy Conference hosted by the University of British Columbia (UBC) in August 2009.

With the theme "Biofuels & Bioenergy – A Changing Climate" and the objective of advancing bioenergy development and reduce dependency on fossil fuels, the conference attracted researchers, government officials, and industry pioneers from 22 countries.

According to Professor **Jack Saddler**, UBC Dean of Forestry and IEA Bioenergy Task (Task 39) Leader, climate change and the global dependence on fossil fuels have created great interest in biofuel and bioenergy technologies.

Task 39 focuses on solving the technical challenges of biofuel production and addressing policy, markets, and implementation issues. Prof. Saddler said the conference convened the industry leaders, thus enabling them to tackle the goals set out in Task 39 to establish the infrastructure needed to produce and market biofuels.

A highlight of the conference was a presentation titled "Biomass – A Savior or A Sin" by Ralph Sims,

Senior Analyst of IEA France and one of the recipients of the 2007 Nobel Peace Prize for his work on the Intergovernmental Panel on Climate Change (IPCC).

IEA Bioenergy was created in 1978 by member countries of the Organization for Economic Cooperation and Development (OECD). It assists with information exchange between countries with national bioenergy programs and in implementing an international energy program in response to the oil shocks.



Fossil fuel burning contribute to global warming. (Photo courtesy of Stone/Getty Images)

Conference sponsors and exhibitors include IEA Bioenergy, BC Bioenergy Network, British Columbia Innovation Council, Forestry Innovation Investment, LifeSciences BC, Genome BC, and Sustainable Development Technology Canada. For detailed conference info, visit <http://www.ieabioenergyconference.org/>. (Condensed from UBC Media Release, 24 August 2009)

UPLB has 2 professors emeriti

Two retired faculty members of the College of Agriculture, University of the Philippines Los Baños (UPLB) have been appointed professors emeriti by the UP Board of Regents at its 1246th meeting on 31 July 2009. The new professors emeriti are Dr. Victor Gapud and Dr. Alberto Robles, formerly of the Crop Protection Cluster and the Animal and Dairy Sciences Cluster, respectively.

Dr. Gapud retired from UPLB in 2008 after 34 years of exemplary service as mentor, administrator, taxonomist, and researcher. Notable among Dr. Gapud's accomplishments are the following: identification of 18 new species of insects belonging to the orders Collembola, Hemiptera, and Odonata; publication of 30 articles in refereed journals; and research work in integrated pest management, particularly on insect pest-natural enemy interaction in rice cropping systems.

Dr. Alberto Robles also retired from UPLB in 2008. He has served UPLB for 43 years as a mentor, researcher, and administrator. Foremost among his administrative work was being two-term director of the Dairy Training and Research Institute in 1980-1986. He has published 33 articles in refereed journals and has contributed in great measure to the development of the country's dairy industry. He was also the national coordinator of the Agriculture Education Technology Program for over five years. (JM Bo, UPLB News, 22 September 2009)

Barn owls found key in sustainable farming in Malaysia

Barn owls have emerged as the unlikely heroes in the fight against climate change, saving Malaysian farmers more than money.

This was the finding of Chong Leong Puan, PhD student, School of Integrative Systems, University of Queensland in his study of predator behavior to determine the effectiveness of barn owls in rodent control on Malaysian palm oil plantations.

According to Mr. Puan, owl species that are associated with forest habitats are regarded as an indicator of forest health. Many species remain high in the food chain and have an ecological role of maintaining ecosystems in a steady state.

A representative for the World Owl Trust, Mr. Puan saw a need to research a more cost effective and environmentally friendly method of pest control.

The barn owl (*Tyto alba*) is the most widely distributed species of owl, and one of the most widespread of all birds. It is also referred to as common barn owl.

Nocturnal creatures, as usual for owls, barn owls often become active shortly before dusk already and can sometimes be seen during the day, when they relocate from a sleeping place they do not like.

Barn owls hunt by flying low and slowly over an area of open ground, hovering over spots that conceal potential prey. They feed primarily on small vertebrates, particularly rodents. Studies have shown that an individual barn owl may eat one or more rodents per night; a nesting pair and their young can eat more than 1,000 rodents per year.

Mr. Chong Leong Puan found that barn owls are effective in controlling rodent populations in palm oil plantations in Malaysia. (Photo courtesy of UQ)



“I spent 14 months on a palm oil plantation in Malaysia trapping rats, observing owl breeding conditions and collecting owl pellets,” Mr. Puan said.

He found that high rodent levels correspond with increased owl fertility rates.

“There was a significant positive correlation between the relative abundance of rats captured and number of pellets collected during breeding months of the birds,” Mr. Puan said.

He also found that biological controls can be used to overcome environmental problems associated with chemical pesticides, such as rodent resistance and secondary poisoning of non-target animals.

The cost efficiency of such biological controls are another reason to adopt the method in Malaysia, the world’s second largest palm oil producer. Annually, rodents cost the palm oil industry more than \$32 million USD, with many plantations relying heavily on chemical control methods.

At a time when both the economy and the environment are struggling on the global stage, Mr. Puan’s findings pave the way for sustainable farming practices across the agricultural industry. (Source: UQ website, 21 August 2009)

Green chemistry fuels wastewater study

University of Queensland's (UQ) Dr. **Korneel Rabaey** will hone his knowledge in wastewater research as he taps into an exciting new way of producing energy-rich biofuels from wastewater and biomass.

Dr. Rabaey, a research fellow from UQ's Advanced Water Management Centre (AWMC), who holds an ARC Australian Postdoctoral Fellowship, has received an \$80,000 2009 UQ Foundation Research Excellence Award to explore a novel route for the production of butanol from wastewater.

The required wastewater is plentiful in industries such as sugar refineries and breweries.

The project, which is in its preliminary stage, will look at the production of butanol using Bioelectrochemical Systems (BESs).

These systems combine wastewater treatment with the production of butanol from butyrate - a typical fatty acid formed during fermentation - and/or carbon dioxide.

"The butanol itself is not the most

important outcome of our research at the moment. Our key objective is to create an interface, where we drive microbial conversions using electricity," Dr Rabaey said.

"If successful, this approach will allow us to use electrical current,

the microbial fuel cell was awarded \$140,000 from the Queensland Government's Sustainable Energy Innovation Fund.

"Wastewater contains nutrients (for agriculture), water (which can be made to any quality) and organics.

Wastewater is plentiful in industries such as sugar. (Photo courtesy of Lubrication Engineers International)



whether derived from wastewater or any other (renewable) source to perform biosynthesis of a wide variety of chemicals including butanol, propanediol and bioplastics."

In 2007, Dr Rabaey was part of a joint project between UQ and Foster's to turn beer wastewater into electricity. The research into

The latter represent both building blocks for value chemicals or can be used to generate electrical or thermal energy," he said.

"The current approach to wastewater treatment rarely leads to adequate recovery of these resources, with anaerobic digestion being the exception.

"When bioelectrochemical systems, then called microbial fuel cells, came up in the early 2000s, I found that their unique features would allow unforeseen control of the wastewater treatment process, while allowing to recover the resources it contains.

"The resource tapped into here is the energy, or better, reducing power wastewater contains - just what is needed to produce a fuel."

Dr. Rabaey said BESs could take energy from wastewater, and use this energy to supply reducing power and create biofuels or biochemicals.

"Recovering the energy, the nutrients and the waste from wastewater creates three marketable products which should make wastewater treatment a net profitable business," he said. (UQ News, 24 September 2009)

IPB to launch micro satellite for national food sustainability program

Institut Pertanian Bogor (IPB) and the National Institute of Aeronautics and Space of Indonesia (LAPAN) have worked together in developing a micro satellite (SAT) for scanning purposes in support of the national food sustainability program.

On its first mission, the satellite will focus on land scanning for farming, forestry, herding, and fishery activities. It will also produce data and information on availability of carbohydrate and protein sources, and weather and fire points.

A Memorandum of Understanding on LAPAN IPB SAT was signed in May 2008, and the satellite is set to be launched in 2012.

Prof. Dr. **Wolfgang Martin Boerner**, a scanning expert from the University of Illinois, visited IPB to discuss the collaborative program on LAPAN IPB SAT. He met closely with Dr. Ir. **Irzaman**, IPB Physics Department Head, and Dr. Ir. **Alinda Fitriany Malik Zain**, M.Si, Head, Collaboration Sub-Directorate, IPB. (IPB website, 6 July 2009)

UPLB research on improved eggplant varieties, a success

More than a decade of research paid off! Pest resistant varieties of eggplant were developed; ways to lessen the use or avoidance of insecticidal spraying were found; there was reduced pest population in the field; and eventually, high production yield was reached.

Dr. **Merdelyn C. Lit** of the Institute of Plant Breeding, Crop Science Cluster of the College of Agriculture, University of the Philippines Los Baños (UPLB), who served as the project leader of three research projects on eggplant was pleased to report the major findings of these projects.

Dr. Lit reported that results of their findings provided valuable information on the resistance of hundreds of eggplant genotypes and wild relatives against leafhopper and shoot/fruit borer, two current major insect pests of eggplant. Several screening trials were conducted in UPLB, Laguna, Nueva Ecija, Pangasinan and Batangas.

The Vegetable Breeding Group of the Institute developed two eggplant varieties, A-300, locally named Mistisa, and Mara, and these were included in the screening trials. These two varieties were found to be moderately resistant to major pests and yielded high under pest pressure. These varieties are now favorably accepted by farmers and consumers in the country. EG300, Abar and SRO2 and several other off-type native eggplant varieties were also found promising against these pests. These local races of eggplant were initially collected from rural areas around the country.

Furthermore, the researcher had developed efficient field and greenhouse techniques for Host

Plant Resistance (HPR) screening of the varieties. The UPLB researcher identified the production areas where farmers had been receptive to the HPR-based cropping system approach, and in these areas, it was observed that the HPR-based strategy matched the other control methods in enhancing the population of natural enemies by the minimal use or avoidance of insecticidal sprays. HPR tactic was also found compatible with cultural control strategies such as planting other crops and cover/companion crops inside or around the areas, the practice of regulated weeding to conserve soil moisture and allow the presence of some weeds in the crop area to serve as refuge for beneficial pests.

On-farm trials in the provinces where the research activities were held led to an effective approach in generating scientific information on insect pest management under farmers' field conditions. What made the research meaningful was that the farmers' participation was strong throughout the stages of project implementation where they directly participated in the hands-on conduct of the screening trials using the above IPM technologies and strategies.

The team summed up that using resistant varieties and planting a mixture of several cultivars/varieties in combination with the other control strategies, as well as grafting technique can effectively reduce pest populations in eggplant.

Two of the three research projects: "Evaluation of the Performance of Selected Eggplant Cultivars with Resistance to the Shoot/Fruit borer, Leafhopper and Bacterial Wilt in

KU hosts international training in integrated watershed

Kasetsart University hosted the International Training Program on Integrated Watershed Management on 20 July-1 August 2009.

Led by KU's Forestry Research Center and Department of Conservation, Faculty of Forestry, the training was funded by the Thailand International Development Cooperation Agency (TICA).

Attended by 30 participants the training aimed to transfer knowledge and technology among developing countries, including Thailand. (Source: NonSee, Vol. 22, No. 8)

Farmer's Field in Balete, Batangas" and "Combined Resistance of Eggplant, *Solanum melongena* L. to the Leafhopper, *Amrasca biguttula* (Ishida) and the Eggplant Borer, *Leucinodes orbonalis* Guenee" got fund support from the Integrated Pest Management Collaborative Research Support Program (IPM-CRSP), Virginia Tech and PhilRice under USAID Grant No. LAG-G-00-93-00053-00. The third project "Identification of Eggplant Varieties Resistant to Leafhopper, Shoot/Fruit Borer, Thrips, Phomopsis Blight and Bacterial Wilt" was funded by the Bureau of Agricultural Research (BAR) of the Department of Agriculture. (Source: UPLB RDE News Service)

UGM opens new veterinary hospital

Universitas Gadjah Mada has opened the Prof. Soeparwi Veterinary Hospital, which will serve as a teaching hospital at UGM. The new hospital was named in honor of Prof. Soeparwi, who has served the UGM Faculty of Veterinary Science as professor and its first dean.

According to Prof. Dr. **Bambang Sumiarto**, Dean, Faculty of Veterinary Medicine, UGM, the establishment of the hospital fulfills the accreditation requirements of the Association of National Accreditation (BAN) and an international accreditation body in Asia.

Moreover, the new veterinary hospital is seen as a strategic step in helping to curb human diseases that are zoological in origin, such as bird flue, swine flue, and leptospyrosis. The rationale was that if animals were treated and kept in good health, it will go a long way towards disease prevention.

The biggest veterinary hospital in Central Java and Yogyakarta, the new hospital also functions as



The new Prof. Soeparwi Veterinary Hospital is a teaching hospital as well as a reference hospital for those who practice in local area and do not have the facilities to do surgery or other medical actions required. (Photo courtesy of UGM)

a reference hospital for those who practice in local area and do not have the facilities to do surgery or other medical actions required. It also provides various services for pets such as routine checks both for sick and healthy animals, vaccination, minor and major surgery, grooming,

dental care, weight control, inpatient services, health consultation, and also services for veterinary medicine, pet shop, roentgen, and blood lab.

The hospital is also equipped with facilities like Small Animal Unit, Road Clinic Unit, Surgery and Radiology Unit, Nursery Unit, Laboratory Unit, Clinic Pharmacy Unit, Epidemiology Clinic Unit, Emergency Installation, and various modern diagnosis back up like EKG, USG, and roentgen. (Source: UGM Public Relations, 5 August 2009)

UPLB students' exchange programs to KU, UBC completed

Two exchange programs of students pursuing their PhD at the University of the Philippines Los Baños (UPLB) were completed under the University Consortium.

Grantees of the program were Ms. **Phikun Nuchnuanrat**, PhD in Plant Pathology, and Mr. **Artemio A. Martin, Jr.**, Straight PhD in Soil Science.

Ms. Phikun conducted her dissertation research at Kasetsart University (KU) under the supervision of Dr. **Somsiri Sangchote**, Professor at KU from

1 October 2007 to 30 September 2008. Her dissertation is titled "The Efficacy of Medicinal Plant Extracts for the Control of Crown Rot Fungi on Banana Fruits (*Musa* spp.)."

Mr. Martin, on the other hand, enrolled three courses at the University of British Columbia (UBC) during the winter session from 1 January to 30 April 2009. The courses he took were Advance Sustainable Soil Management, Advance Soil Biology, and Advance Biometreology. (LLDDomingo)

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placements, and supporting a BC Hydro Power Smart Instructional Fellow and program curriculum development.

More information about the program may be viewed at <http://www.cerc.ubc.ca>. (Condensed from *UBC Reports*, Vol. 55, No. 8, 6 August 2009 issue)

The University Consortium

The Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources is a program launched on 19 September 1989 by SEARCA.

The idea of having such a program was formed in August 1988 when SEARCA, with 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 have been admitted, namely: University of British Columbia (UBC) in Canada, University of Queensland (UQ) in Australia, Georg-August University of Göttingen in Germany, and Tokyo University of Agriculture in Japan.

"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" - this is the vision of the revitalized University Consortium.

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

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UBC offers 2 new master's degree programs

The University of British Columbia (UBC) now offers two new master's programs that focus on global food issues and clean energy.

Master of Food and Resource Economics

Graduate students who will pursue the Master of Food and Resource Economics (MFRE) at the Faculty of Land and Food Systems will be tackling real world issues such as fluctuating grain prices and the possibility of a global food crisis.

Launched in the Fall Semester of this school year, the MFRE is the first professional master's program in Canada to offer a combination of applied economics, policy analysis, and agribusiness management. The 30-credit program can be completed in one year. It is expected to attract graduates and professionals such as policy analysts, market consultants, and researchers who are keen to study more advanced economics and real

world applications. MFRE courses are taught by faculty members as well as people in industry or government from the food and resource sectors.

The new master's program was crafted by the Food and Resource Economics (FRE) group in the Faculty of Land and Food Systems in response to a demand of bachelor's degree graduates of agricultural economics and related programs for a master's degree that suits their interests and education.

"The new program will prepare students to understand changes in food markets, undertake agricultural and resource policy analyses, and evaluate proposals to solve environmental problems," says Dr. **Rick Barichello**, Associate Professor, Faculty of Land and Food Systems. He added that this will enable graduates to contribute better in government and industry as policymakers and marketing managers.

For more information about the MFRE program, www.landfood.ubc.ca/programs/master_food_res_econ.htm.

[ubc.ca/programs/master_food_res_econ.htm](http://www.ubc.ca/programs/master_food_res_econ.htm). (Condensed from UBC Reports, Vol. 55, No. 8, 6 August 2009 issue)

Master's in Clean Energy Engineering

Meanwhile, a new master's degree in Clean Energy Engineering is now offered by the UBC Faculty of Applied Science and the Clean Energy Research Centre (CERC) to help conserve and meet the global need for energy while minimizing the release of greenhouse gases and other emissions.

The first of its kind in Canada, the program primarily caters to engineering graduates who are interested to pursue advanced studies to reduce energy demand through energy-efficient technologies and improve the supply of energy from sustainable energy sources such as biomass, solar, wind and small-scale hydro.

The program, which runs for 12-16 months, will also focus on energy conservation, social change concepts, efficient use of electricity and acquiring the tools to compare and evaluate alternative energy scenarios. The program is a combination of courses and a co-operative work term that will enable students to develop their career goals in areas such as technology development, management, business, and leadership.

In partnership with the UBC Sustainability Office and the Faculty of Applied Science, BC Hydro Power Smart will support the program by providing expertise with a focus on energy conservation, co-funding engineering co-op work



Students who will pursue the Master of Food and Resource Economics (MFRE) at UBC will be tackling real world issues such as fluctuating grain prices. (Photo courtesy of The Star Online)

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