

# UNIVERSITY CONSORTIUM

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

## University Consortium Executive Board meets in Australia

**QUEENSLAND, AUSTRALIA** - Officers of the Executive Board of the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources met in Queensland, Australia on 2-3 December 2008. The meeting, which was the 21st annual meeting of the University Consortium (UC), was held at the University of Queensland (UQ), Gatton campus. The meeting was focused on the following: 1) directions of the UC in the succeeding years, 2) partnerships, and 3) plans and activities for fund

generation. Dr. Roger Swift, Executive Dean of the UQ Faculty of Natural Resources, Agriculture, and Veterinary Science, chaired the meeting.

Dr. Arsenio M. Balisacan, director of the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), an associate member of the UC and head of the UC Secretariat presented SEARCA's Ninth Five-Year Plan which will pursue more focused selection of programs, projects, and themes under the two broad thrusts namely: Agricultural Competitiveness and Natural Resource Management. In the next five years, SEARCA's activities will be more regionalized and will strongly engage the UC in collaborative projects,



The University Consortium Executive Board convene for the 21st UC Meeting at University of Queensland, Brisbane, Australia.

particularly in hosting of SEARCA scholars, researchers and scientists and in designing joint graduate programs; research and training courses, and Sandwich programs for MS and PhD.

Dr. Richard Williams, Associate Dean, Faculty of the UQ Natural Resources, Agriculture and Veterinary Science, presented information on the availability of Australian grants and opportunities to the UC such as the Australian Leadership Awards and the Asian Public Sector Linkage Awards. Dr. Williams said that proposals have to be submitted in order to apply for these grants.

During the meeting, the UC Executive Board also decided to hire an expert to come up with a marketing

plan for the UC (to emphasize the value adding features and track record of the UC) and come up with proposals to generate funds for the UC. During the meeting, a Fund-Raising Working Group was formed, which is composed of representatives from among the UC members, namely: UQ, Universiti Putra Malaysia (UPM); University of the Philippines Los Banos (UPLB), and SEARCA.

After careful deliberation, the Board agreed on the following priority themes for projects of UC in the next two years: a) Food security and biosafety; b) Biofuel and global warming; climate change; competition between food and

**See University Consortium, p. 2**

## Consortium Exec Officer, Coordinator at UPM appointed to new posts

Prof. Datin Paduka Dr. Aini Ideris has been appointed by the Ministry of Higher Education as Deputy Vice Chancellor for Academic and International Affairs of the University Putra Malaysia (UPM) in Serdang, Selangor, Malaysia. Her appointment is effective 1 December 2008 for a period of three years.

Prof. Aini formerly served as Dean of UPM School of Graduate Studies until November 2008.

Dr. Aini replaced Prof. Dr. Datin Paduka Khatijah Mohd. Yusoff who now serves as Deputy Secretary General at the Ministry of Science, Technology and Innovation.



**AINI**



**HASANAH**

Meanwhile, Prof. Dr. Hasanah Mohd. Ghazali has been appointed Dean of the School of Graduate Studies in place of Dr. Aini. Prior to her appointment as Dean, Dr. Hasanah was Deputy Dean for Thesis and Academic Records, School of Graduate Studies.

With her appointment as UPM Dean of Graduate Studies, Dr. Hasanah now serves as a Consortium Executive Officer. (LLDDomingo)

## Masyhuri heads UGM Center for World Trade Studies

Prof. Dr. Masyhuri has been appointed as Director, Center for World Trade Studies under the Office of International Affairs, Universitas Gadjah Mada in Yogyakarta, Indonesia.

Prior to his appointment as Director of the Center of World Trade Studies, Dr. Masyhuri was Chairman of the Master of Agribusiness Management Program, UGM.

Dr. Masyhuri concurrently serves as the University Consortium Coordinator of UGM. (LLDDomingo)

### University Consortium, from p. 1

combined funding from the UC and other sources, as well as the annual UC meetings.

The Tokyo University of Agriculture in Japan will be the host of the 22nd UC meeting tentatively scheduled on the second week of November 2009.

Participants of the meeting were Dr. Khairil Anwar Notodiputro, Dean of Graduate School, Dr. Rinekso Soekmadi, Director, Directorate of Collaboration and International Programs, both from Institut Pertanian Bogor, Indonesia; Dr. Masyhuri, Director, Center for World Trade Studies, Office of International Affairs, and Dr. Ali Wibowo, Professor, both from Universitas Gadjah Mada, Indonesia; Professor Dr. Aini Ideris, Dean of Graduate School, and Dr. Hasanah Mohd. Ghazali, Deputy Dean, School of Graduate Studies, both from Universiti Putra Malaysia; Dr. Mahesh Upadhyaya, Associate Dean, Faculty of Agricultural Sciences Graduate Studies,

## KU has new Director of Int'l Affairs

Dr. Somsakdi Tabtimthong has been appointed as Director of the International Affairs Division of Kasetsart University (KU) in Bangkok, Thailand. His appointment is effective 11 November 2008.

He replaced Ms. Pacharavadee Paerattakul.

Prior to his appointment as Director of International Affairs Division, Dr. Somsakdi was Head of the International



**SOMSAKDI**



**PACHARAVADEE**

Cooperation Section of said Division.

With his appointment as Director of International Affairs, Dr. Somsakdi now also serves as a Consortium Coordinator. (LLDDomingo)

and Dr. David Kitts, Professor and Program Director of Food, Nutrition and Health, both from University of British Columbia, Canada; Professor Dr. Swift and Dr. Williams, both from UQ; Dr. Akimi Fujimoto, Director of International Programs, and Dr. Mariko Uehara, Deputy Director of International Programs, both from the

Tokyo University of Agriculture, Japan; Dr. Luis Rey I. Velasco, Chancellor, and Dr. Oscar B. Zamora, Dean of Graduate School, both from the University of the Philippines Los Baños; Dr. Balisacan and Dr. Editha C. Cedicol, Manager of Graduate Scholarship Department, both from SEARCA. (Contributed by ECCedicol)

## UPM Inks Agreement with Asian Fisheries Association, Hosts Secretariat

Universiti Putra Malaysia (UPM) now hosts the secretariat of the Asian Fisheries Association (AFS) and signed a memorandum of agreement with AFS to boost the aquaculture and fisheries industry in Malaysia.

Established in 1984, the AFS was formerly based in Manila, Philippines and has 3,000 members from 77 countries including the United States, Canada and countries in Asia, South America, and Europe. Formed by Asian fisheries experts, the AFS aims to develop the fisheries sector by enhancing collaboration among researchers, engineers, and shareholders in the fisheries and aquaculture industry.

During the signing of the agreement, UPM Vice Chancellor Prof. Datuk Dr. Nik Mustapha R. Abdullah said UPM welcomes the collaboration with AFS to extend its network in the field of fisheries.

According to Dr. Mustapha, the agreement covers intellectual collaboration and training in the national and international level to facilitate networking between UPM faculty and staff and members of the

AFS around the world and to encourage activities that involve fisheries. He said the UPM Aquaculture Department, in particular, would benefit from the aquaculture technology network.



Prof. Yang Yi (right) presenting the AFS Gold Medal Award to Prof. Datuk Dr. Nik Mustapha R. Abdullah on behalf of Universiti Putra Malaysia (UPM). (Photo courtesy of UPM)

He added that since the fisheries and aquaculture industry has been identified as key to achieving economic growth, the presence of a renowned fisheries organization at UPM will open opportunities towards achieving said goal.

On the other hand, Prof. Yang Yi, AFS President, said AFS is very much willing to assist UPM in expanding the fisheries and aquaculture sector as well as enhancing collaboration between

UPM and relevant agencies in Asia and beyond.

Prof Yi said that the MOA provides privilege for UPM faculty, staff and students to access AFS publications at

the UPM library. He added that AFS will also assist UPM in organizing conferences, seminars, and workshops on topics related to fisheries and aquaculture.

The AFS office at UPM is lodged at the Institute of Bioscience, which is fully equipped with amenities available to the AFS staff and its administrative activities. (LLDDomingo, with report from Media Section, Corporate Communication Division, UPM)

## TUA Prof Leads Japanese Group Visit to KU

A Japanese delegation led by Prof. Dr. Izuru Yamamoto, Professor Emeritus, Tokyo University of Agriculture, Japan visited Kasetsart University on 24 January 2008 to discuss and exchange ideas on the significance of agricultural and agro-industrial products in international trades.

Other members of the delegation include Mr. Kiptaro Ito, Mayor, Sajo City and delegates from Ehime Prefecture, Kagawa Prefecture, Tokushima Prefecture, and Kochi Prefecture, all in Japan.

Dr. Sornprach Thanisawan-yangkura, Vice President for

International Affairs, KU, met with the Japanese delegation together with representatives from the KU Research and Development Unit (KURDI) and Kasetsart Agricultural and Agro-

Industrial Product Improvement Institute including(KAPI), among other concerned units in the university. (LLDDomingo, with report from <http://www.ku.ac.th/english2003/news/january2008.html>)



The Japanese delegation pose with Kasetsart University (KU) officials during their visit to KU on 24 January 2008. (Photo courtesy of Kasetsart University)

### UQ Prof Discovers Great Biogas Source in Bananas

A researcher at the University of Queensland (UQ) in Australia discovered the potential to produce energy from banana waste.

Dr. William Clarke, Associate Professor at the Division of Environmental Engineering, School of Engineering, UQ, found this out during



Associate Professor William Clarke. (Photo courtesy of University of Queensland)

his 2004-2005 research supported by the Queensland Government through the Qld Sustainable Energy Innovation Fund (QSEIF), Ergon Energy, and The Australian Banana Growers' Association Inc.

"We demonstrated in 2004-2005 that waste bananas and stalk material within the banana bunch are a great source of methane," Dr. Clarke said.

The combination of methane and carbon dioxide is called biogas. Fuel derived from organic matter is called biogas.

Dr. Clarke said the biogas produced from bananas could potentially be used as an alternative energy source. He explained that the biogas can either be stored at moderate pressure, possibly for use as a transportation fuel, or directed to a gas engine to generate electricity, as is currently done in Australia at a number of landfills.

Recently, Growcom, an 80-year-old Queensland-based top horticulture organization, ventured to transform Dr. Clarke's research

into a commercial-scale project set up in North Queensland where bananas are abundant. The commercialization project received an additional QSEIF grant.

According to Dr. Clarke, there are no technical problems with producing methane from bananas. But for the process to be economically viable, Dr. Clarke said there is a need to develop a cheaper and simpler digester compared to those that are currently used for organic waste in Europe.

"Methane is produced by loading the bananas into an air tight reactor, with careful control of pH and, ideally, temperature," Dr. Clarke explained.

"The Australian Banana Growers' Association has built a pilot scale bladder reactor which sits in an excavation in the ground. The bladder contains the bananas and biogas," Dr. Clarke said.

Dr. Clarke has been working with Growcom in an advisory capacity, providing design and operational advice at the Growcom plant. (Condensed from UQ News Online, 14 January 2008 issue)

### UGM Develops Technology Biogas Conversion of Fruit Waste

Universitas Gadjah Mada (UGM) and University of Boras, Sweden are jointly developing a pilot project that aims to convert waste into electric energy. Cooperation with University of Boras began with the creation of a technology that converts waste fruits from a local market in Yogyakarta, the Gamping traditional market, into biogas.

According to Dr. Siti Syamsiah, a waste utilization researcher at the UGM Faculty of Engineering, the pilot project is set to build a station in a 600 sq. m. land given by the Sleman

Regency government that is located close to the Gamping market. The station is expected to be able to convert 10 tons of waste fruits from the market into biogas.

Dr. Siti said UGM adopted the waste refinery technology from Sweden, wherein at least 40 percent of the waste is converted to electricity and fuel for vehicles.

Prof. Mohammad Taherzadeh of the University of Boras explained that the station can process 10 tons of wet and rotten fruits to produce two tons of dry waste, which can generate 700

cubic meter of methane gas. One cubic meter of methane gas is comparable to one liter of gasoline.

Dr. Siti said the Government of Sweden has provided 1.7 billion Indonesian Rupiah to support the project.

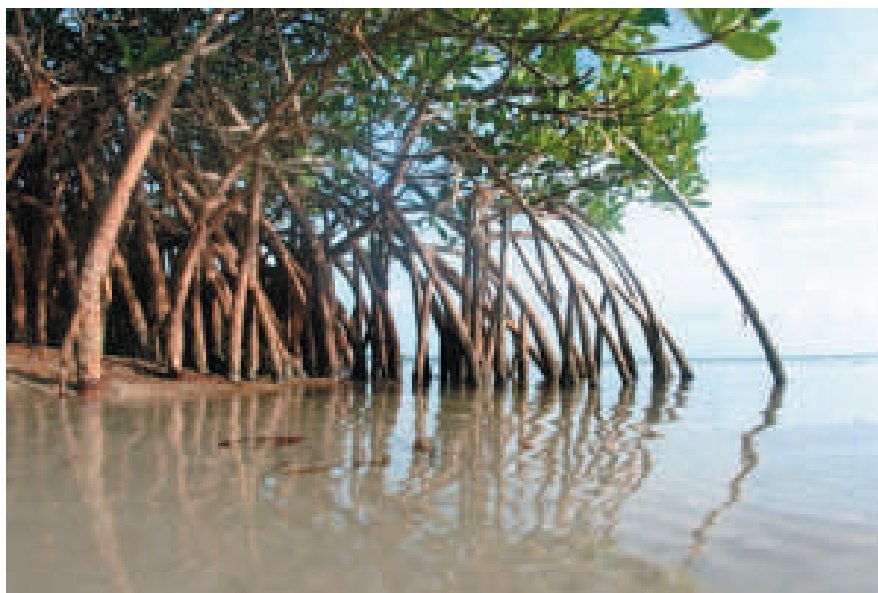
Expected to be completed in one year, the project is to be replicated in other areas in Indonesia. Dr. Siti said she hopes that the cooperation can support the waste refinery program in industrial sites as well as local homes. (LLDDomingo, with report from UGM Public Relations at <http://www.ugm.ac.id/eng/index.php?page=rilis&artikel=772>)

## CeTSAF Conducts Summer School on Managing Biodiversity in Developing Countries

The Center for Tropical and Subtropical Agriculture and Forestry (CeTSAF) of the Georg-August University of Göttingen conducted the Summer School 2008 with the theme Managing Biodiversity in Developing Countries on 18-31 May 2008.

Funded by the German Academic Exchange Service (DAAD) and the Georg-August University of Göttingen, the Summer School was intended for scientists, experts, practitioners, and advanced students working in the area of biodiversity conservation and management to participate in the Summer School. Regional focus was given to China, Iran, Indonesia, Latin America, and Africa.

Primary areas covered by the Summer School include nature conservation and biodiversity, nature conservation and biodiversity management in a rapidly developing country, key international instruments related to biodiversity, biodiversity issues in higher education in Iran, institutions in biodiversity management: the concept of “learning organizations,” valuation of ecosystems and biodiversity – biocultural approaches



Since mangroves occupy the intertidal zone, they support unique ecosystems and a diverse flora and fauna of marine, freshwater and terrestrial species, especially in their intricate root systems. Hence, mangroves are high on the biodiversity conservation list.

towards sustainable use of natural resources, documentation and visualization of biodiversity at landscape level: observation and assessment of biodiversity aspects from remote sensing and sample-based field inventories, habitat suitability analyses, implementation of the European Union flora fauna directive – from policy to practice, improving management measures to support grassland biodiversity, and development and application

of modeling as a support tool for managing biodiversity grasslands.

The DAAD and Georg-August University of Göttingen covered the travel, accommodation, and daily subsistence of all Summer School participants.

CeTSAF is headed by its Director, Prof. Dr. Christoph Kleinn, who is Professor of Forest Inventory and Remote Sensing. (LLDDomingo, with report from the CeTSAF website at <http://www.uni-goettingen.de/en/79081.html>)

### SEARCA invites applications for graduate scholarship in agriculture

SEARCA invites applications for its graduate scholarship (MS and PhD) in agriculture and related fields (including biological sciences, social sciences, economics and statistics, forestry and fisheries, environmental sciences, agro-industrial technology and engineering, biochemistry, and development management) for School Year 2010-2011.

The scholarship is open to nationals of Brunei Darussalam, Cambodia,

Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste, and Vietnam who are regular employees of academic or research institutions or government agencies and not older than 35 years old.

Applicants may submit their applications to their countries' respective Ministries of Education, Higher Education, Agriculture, Forestry, Fisheries, Environment and Natural

Resources, or Rural Development. The Ministries will then screen and endorse their applications to SEARCA not later than **30 July 2009**.

The list of application requirements and the application forms may be downloaded from the SEARCA website at <http://www.searca.org>.

For inquiries, send email to [gsd@agri.searca.org](mailto:gsd@agri.searca.org) or [ecc@agri.searca.org](mailto:ecc@agri.searca.org).

## 18 New UGM Deans appointed

A total of 18 new deans at Universitas Gadjah Mada (UGM) have been inaugurated for one term from 2008 to 2012 on 9 October 2008. The ceremony was led by Prof. Dr. Ir. Sudjarwadi, Rector, UGM.

Re-elected deans are Prof. Dr. Marchaban, Faculty of Pharmacy; Dr. Marsudi Triatmodjo, Faculty of Law; Prof. Dr. Ir. Mohammad Na'iem, Faculty of Forestry; and Prof. Dr. Ir. Tri Yuwanta, Faculty of Animal Science.

The other new deans are Dr. Retno Peni Sancayaningsih, Faculty of Biology; Prof. Dr. Marwan Asri, Faculty of Business and Economic; Drs M Mukhtasar Syamsuddin, Faculty of Philosophy; Prof. Dr. Suratman, Faculty of Geography; Dr. Ida Rochani Adi, Faculty of Cultural Sciences; Dr. Pratikno, Faculty of Politics and Social Sciences; Prof. Dr. Ali Gufron Mukti, Faculty of Medicine; Prof Dr. drg. Iwa Sutardjo Rus Sudarso, Faculty of Dentistry; Dr. Chairil Anwar, Faculty of Mathematics and Natural Sciences; Prof. Dr. Ir. Triwibowo Yuwono, Faculty of Agriculture; Prof. Dr. Faturochman, Faculty of Psychology; Dr. Ir. Tumiran, Faculty of Engineering; and Dr. Ir. Djagal Wiseso Marseno, Faculty of Agriculture Technology. (LLDDomingo, with report from UGM News at <http://www.ugm.ac.id/eng/index.php>)

## UPLB Chancellor reappointed

Dr. Luis Rey I. Velasco has been reappointed for a second term as Chancellor of the University of the Philippines Los Baños (UPLB) effective 1 November 2008 for a period of three years.

Dr. Velasco served his first term as Chancellor from 1 November 2005 to 31 October 2008.

An Associate Professor of Entomology at UPLB and former Dean of the College of Agriculture, Dr. Velasco's professional career spans more than 25 years of college teaching,



VELASCO

research and extension work, and serving various government agencies in technical as well as administrative capacity, mostly in the agricultural sector. (LLDDomingo)

## Five UC members host new SEARCA scholars

SEARCA has awarded graduate scholarships for School Year 2008/2009 to 42 nationals of Cambodia (5), Indonesia (3), Lao PDR (4), Myanmar (7), the Philippines (12), Thailand (5), Timor-Leste (3), and Vietnam (3). The scholarships are for 26 master's and 16 PhD programs as of 30 June 2008.

Of the total number of new SEARCA scholars, 32 are pursuing their graduate studies at University of the Philippines Los Baños (UPLB), while four (1 Laotian, 1 Myanmar, 2 Thais) are studying at Kasetsart University (KU) in Thailand.

The SEARCA scholars who will pursue their graduate studies at UPLB are composed of 20 master's students (5 Cambodians, 2 Indonesians, 3 Laotians, 2 Myanmar, 5 Filipinos, 1 Timorese, 2 Vietnamese) and 12 PhD students (4 Myanmar, 6 Filipinos, and 2 Thais).

Meanwhile, hosting one new SEARCA scholar each are Universitas Gadjah Mada (UGM) (1 Timorese) and Institut Pertanian Bogor (IPB) (1

Indonesian), both in Indonesia, and Universiti Putra Malaysia (UPM) (1 Thai).

On the other hand, four new SEARCA scholars are pursuing their graduate programs at Kasetsart University. Two of them are taking up MS programs (2 Laotians) and the other three are pursuing PhD programs (1 Myanmar, 2 Thai).

The UP Visayas in the Philippines is also host to three SEARCA scholars (1 Filipino, 1 Timorese, 1 Vietnamese) pursuing MS programs.

Of the 42 new scholars, six are supported by the German Academic Exchange Service (DAAD), while the rest are funded by SEARCA.

The new scholarship grants bring to 1,238 the total number of graduate scholarships that SEARCA has awarded to nationals of the 11 SEAMEO member countries. As of 30 June 2008, SEARCA has a total of 113 scholars whose graduate programs are ongoing. (LLDDomingo)

## 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.

*University Consortium* is a newsletter published by the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) for the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC). It can be downloaded from the UC website at <http://www.uc.searca.org>

Editor and Layout Design: Leah Lyn D. Domingo  
Advisers: Arsenio M. Balisacan  
Editha C. Cedicol

*University Consortium* accepts contributed articles on activities related to the Consortium programs. Send contributions to: The Editor, University Consortium, SEARCA, College, Los Baños 4031 Laguna, Philippines; Telefax: (63-49) 536 7164; Email: [llbd@agri.searca.org](mailto:llbd@agri.searca.org), [gsd@agri.searca.org](mailto:gsd@agri.searca.org)

### UC Contact Persons

#### UNIVERSITAS GADJAH MADA

**Prof. Dr. Masyhuri**  
Director  
Center for World Trade Studies  
Office of International Affairs  
Universitas Gadjah Mada  
Jl. Flora, Bulaksumur 55281  
Yogyakarta, Indonesia  
Tel: 62-274-555676  
Fax: 62-274-516656  
E-mail: [mmasyhuri@hotmail.com](mailto:mmasyhuri@hotmail.com) or  
[dr\\_masyhuri@yahoo.com](mailto:dr_masyhuri@yahoo.com)

#### UNIVERSITY OF THE PHILIPPINES LOS BAÑOS

**Dr. Cristeta N. Cuaresma**  
Secretary  
Graduate School  
University of the Philippines Los Baños  
4031 College, Laguna, Philippines  
Tel: (63-49) 536-3414, 536-2310  
Fax: (63-49) 536-2310  
Email: [teta1027@yahoo.com](mailto:teta1027@yahoo.com)

#### INSTITUT PERTANIAN BOGOR

**Dr. Rinekso Soekmadi**  
Director  
Directorate of Collaboration and International Programs  
Institut Pertanian Bogor  
Gedung Rektorat, Lt. 2  
Kampus IPB Darmaga Bogor  
Indonesia  
Tel: (62-251) 622-638  
Fax: (62-251) 622-638  
E-mail: [internas@indo.net.id](mailto:internas@indo.net.id)

#### UNIVERSITI PUTRA MALYSIA

The Consortium Coordinator  
School of Graduate Studies  
Zone 4, Off Jalan Stadium  
Universiti Putra Malaysia  
43400 Serdang, Selangor, Malaysia  
Tel: (60-3) 89464201, 89464202  
Fax: (60-3) 89464234  
Email: [hasanah@putra.upm.edu.my](mailto:hasanah@putra.upm.edu.my)

#### UNIVERSITY OF QUEENSLAND

**Dr. Richard Williams**  
Coordinator  
Faculty International Programs  
Faculty of Natural Resources, Agriculture, and Veterinary Science  
Gatton College  
University of Queensland  
Brisbane Qld 4072, Australia  
Tel: (61-7) 54601 305  
Fax: (61-7) 54601 455  
E-mail: [richard.williams@mailbox.uq.edu.au](mailto:richard.williams@mailbox.uq.edu.au)

#### KASETSART UNIVERSITY

**Mr. Somsakdi Tabtimthong**  
Director  
International Affairs Division  
Kasetsart University  
50 Phaholyothin Road  
Chatuchak, Bangkok 10900, Thailand  
Tel: (66-2) 942 8171  
Fax: (66-2) 942 8170  
E-mail: [fro@nontri.ku.ac.th](mailto:fro@nontri.ku.ac.th)  
(Foreign Relations Office)

#### UNIVERSITY OF BRITISH COLUMBIA

**Dr. Mahesh Upadhyaya**  
Associate Dean  
Graduate Studies  
Faculty of Land and Food Systems  
University of British Columbia  
270-2357 Main Mall  
Vancouver, B. C. V6T 1Z2, Canada  
Tel: (1-604) 822-6139  
Fax: (1-604) 822-4400  
E-mail: [upadh@interchange.ubc.ca](mailto:upadh@interchange.ubc.ca)

#### GEORG-AUGUST UNIVERSITY OF GÖTTINGEN

**Dr. Uwe Muuss**  
Director, International Office  
Georg-August-University Goettingen  
Von-Siebold-Strasse 4  
37075 Goettingen, Germany  
Phone: +49 - 551 39 13585  
Fax: +49 - 551 39 14254  
Email: [uwe.muuss@zvw.uni-goettingen.de](mailto:uwe.muuss@zvw.uni-goettingen.de)

#### TOKYO UNIVERSITY OF AGRICULTURE

**Dr. Akimi Fujimoto**  
Professor, Faculty of International Agriculture  
and Food Studies  
and Director, International Programs  
Tokyo University of Agriculture  
1-1-1 Sakuragaoka, Setagaya-ku  
Tokyo 156-8502, Japan  
Tel.: (8 13) 5477 2737  
Fax: (8 13) 5477 2646  
E-mail: [fujimoto@nodai.ac.jp](mailto:fujimoto@nodai.ac.jp)

## Avian Genetic Resource Center-bred chickens and quails may hold key to safer poultry supply

They may look and walk like chickens, but the two-legged fowls at the Avian Genetic Resource Centre (AGRC) are no ordinary birds.

The AGRC is a partnership between UBC's Faculty of Land and Food Systems and Agriculture and Agri-Foods Canada, based in the Pacific Agricultural Research Centre in Agassiz, B.C.

The nine lines of chickens and nine lines of Japanese quail at the AGRC represent a collection of unique genetic variations and may hold the key to a safer poultry supply and higher economic potentials. Each of the more than 3,500 chickens and quail at the facility is carefully bred and pedigreed. Collectively, they build a living genetic library consisting of a wide variety of genetic mutations. In addition, genetic materials from most of the major chicken breeds in Canada are kept in the deep freeze for preservation. The treasure trove of avian genetics makes B.C. a key resource in the global industry.

"There are currently only two international chicken breeding companies supplying commercial breeding stocks to the whole world," says UBC Avian Genetics Prof. Kim Cheng. "While flock uniformity is convenient for production and processing, the lack of genetic variation also leaves the door wide open for large-scale disease outbreaks.

"A flock could become susceptible to a new strain of virus such as Avian Flu and be completely wiped out," says Prof. Cheng.

Poultry stocks today are exposed to more diseases than ever and chronic use of antibiotics has also slowed down the process of new

genetic variations that could resist new pathogens.

"The genetic resources at AGRC allow scientists from all over the world to study how genome affects size and meat quality, disease resistance, how well particular breeds could adapt to farm facilities and how we can help industry improve housing environments and breeding practices," says Prof. Cheng, who is also an expert on exotic birds.

Poultry and its allied feed and processing sectors are a major industry in Canada. The value of poultry products totalled \$2.6 billion in 2004 and there's a new industry blooming abroad promising significant economic opportunities.

"Specialty birds such as Japanese quail, Partridge tinamou and Emu are gaining popularity in Asia and Europe for their oil, meat and eggs," says Prof. Cheng. "The expertise being cultivated at AGRC puts B.C. in an ideal position to become a leading exporter of these highly specialized products while diversifying existing operations."

Genome research on birds may also lead to advances in human health, says Prof. Cheng, whose work almost three decades ago recently helped successfully reverse congenital blindness in a clinical trial.

In 1980, Prof. Cheng discovered a gene mutation in a line of Rhode Island Red (RIR) chickens that produced blindness at hatching. The blind chickens were passed onto the Department of Neuroscience at the University of Florida for further analysis and the gene was later sequenced.

"The research group at the University of Florida found that



Prof. Kim Cheng works with chickens and quail of the Avian Genetic Resource Center, University of British Columbia (UBC). (Photo by Martin Dee courtesy of UBC)

the gene in the blind chicken had the same sequence as a human gene that caused a form of congenital blindness called Leber's Congenital Amaurosis," says Prof. Cheng.

Using the blind chicken in their study, the University of Florida team further developed a gene therapy that restored vision to the blind chicken in 2006 and last April, a team of researchers from the University of Pennsylvania furthered the method to partially restore sight to three human patients.

Both the RIR and the blind chicken lines are housed at AGRC. (Brian Lin, *UBC Reports*, Vol. 54, No. 11)