UC MEMBER UNIVERSITIES PLACE IN THE 2020 QS WUR BY SUBJECT ON AGRICULTURE AND FORESTRY

The Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC) member universities improved their ranking in the 2020 QS World University Rankings (WUR) by Subject on Agriculture and Forestry. University of British Columbia (UBC), University of Gottingen, Kasetsart University (KU), Institut Pertanian Bogor (IPB), and Universiti Putra Malaysia (UPM) all placed in the top 100 with UBC taking the 14th rank and University of Gottingen placing in 21st worldwide. National Taiwan University (NTU) ranked in the 101-150th place while Universitas Gadjah Mada (UGM) and University of the Philippines (UP) placed in the 151-200th. Universitas Brawijaya (UB) was in the 301-350th spot.

The QS WUR by subject ranks the universities based on their international reputation and research impact using data on academic and employer reputation, research citations, and H-index. Among the UC members, IPB was rated highest in academic reputation and employer reputation with scores of 73.7 and 81.3 respectively. In terms of H-index citations and citations per paper, UBC led with scores of 93 and 87.3 respectively. Among the members, KU showed consistency with their scores for all the criteria.

SEARCA assists the member universities in these four factors through its graduate scholarships, research grants, capacity building activities, and management of the UC grants and projects as Secretariat.

In terms of employer reputation, employability of the graduates is an important factor in the evaluation. SEARCA offers various scholarship grants and training to support the development of human resource capacity in agriculture throughout the region. These grants and capacity building activities contribute in producing graduates relevant to the market needs and are equipped to address the changing challenges faced by agriculture.

In terms of strengthening research capacities among the institutions, SEARCA offers the Seed Fund for Research and Training (SFRT) which provides start up funding for promising research and training projects while the UC offers the Seed Fund for Collaborative Research among its members to encourage institutional collaborations on research. The UC also organizes activities for both faculty and students to disseminate research through an open platform while a student grant for research activities and publication is also extended by the consortium to its member institutions.

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The UC also supports the members’ academic reputation internationally through the provision of travel grants for research, conference, seminar, and mobility.

Academic reputation in the world ranking is measured by identifying institutions seen as leaders in various fields by academicians worldwide. Through the UC members’ participation in research and academic exchanges, it allows both faculty and graduate students to become ambassadors of their own universities to other international institutions. Annual UC activities such as the Faculty Forum, Graduate Forum, and the Summer School greatly contribute to this as different institutions gather to share their research, knowledge, and expertise on pressing issues in agriculture.

As SEARCA implements its 11th Five Year Plan (FYP), focus will be given to strengthening the academe-industry-government interconnectivity towards agriculture and rural development which will further assist the universities in their academic and research programs.

Dr. Nazmi Mat Nawi is a Senior Lecturer and the Head of Laboratory of Farm Machinery, Department of Biological and Agricultural Engineering, Faculty of Engineering, in UPM. Dr. Nazmi was awarded the grant in the field of Agricultural Mechanization and Post-harvest Engineering. He finished his PhD in Agricultural Engineering at University of Southern Queensland, Australia and specializes in the areas of farm machinery design, post-harvest engineering, non-invasive assessment of fruit quality, and emergency response and planning.

Dr. Norsida Man is an Associate Professor and Head of the Department of Agriculture Technology in UPM. Dr. Norsida was awarded the grant in the field Agricultural Extension and Development. She obtained her PhD in Agricultural Economics and Management from Kagoshima University, Japan. She specializes in agricultural extension, agriculture development and management, and economics and has led numerous projects related to these. Besides being a prolific researcher, she also holds a patent to the Questionnaire for Study on A Challenge on Farmers Preparedness against Flood and Natural Disasters to Develop Agriculture in East Coastal Malaysia.

Four outstanding academicians from UC member institutions were recognized by SEARCA out of the 16 endorsed applications by different universities in Southeast Asia for the Regional Professorial Chair Grant. This award is given to those who Accelerate Transformation through Agricultural Innovation (ATTAIN) which was based on the Center’s 11th Five-Year Plan (FYP). Specifically, the awardees were recognized for their contributions to priority areas of the FYP such as Agri-Business Models for Increased Productivity and Income, Sustainable Farming Systems and Natural Resource Management, Food and Nutrition Security, Transformational Leadership for ARD, Gender and Youth Engagement in ARD, Enhanced ARD towards Climate Resilience, and Eco-Health/One-Health Applications to ARD.

Three (3) of the grantees for AY 2020-2021 came from Universiti Putra Malaysia (UPM) which has been very active in nominating their outstanding professors as six (6) previous recipients came from this institution:

- Dr. Norsida Man
- Dr. Nazmi Mat Nawi
- Dr. Shuhaimi Mustafa

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UC MEMBER INSTITUTIONS LEAD OIL PALM INTERNATIONAL RESEARCH PUBLICATIONS

The 2020 Elsevier Research Intelligence on Evidence-Based Policymaking in Indonesia named three members of the UC as top publishers of scientific articles on oil palm research. Institut Pertanian Bogor (IPB) ranked 1st with 69 articles published, followed by University of Gottingen which ranked 2nd with 42 articles and Universiti Putra Malaysia (UPM) in 3rd with 24 articles. The three universities conducted wide range of research on oil palm covering topics in sustainability, biodiversity, socioeconomics, and the environment.

For both IPB and UPM, the oil palm industry is vital in their country’s economy and plays a huge part of their export industry. It is also an important food source and can be used as feed, fuel, or as chemical component. Eighty-five percent (85%) of the global oil palm production can be found in Indonesia and Malaysia\(^1\). A number of SEARCA scholars studying in IPB and UPM also conducted research on oil palm for their thesis. Results from these studies have also been presented in conferences by the scholars. University of Gottingen has partnered with IPB in various research studies including the Oil Palm Adaptive Landscape project and the Global Challenges Research Fund’s Trade, Development and the Environment Hub. These two universities also partnered with different institutions in disseminating research on oil palm through summer courses available for international participants.

In 2018, UPM hosted the UC-FSCC Summer School on Oil Palm-Cattle Integration: A Transition Towards Sustainability in Food Security and Climate Change. This was jointly organized with Universitas Gadjah Mada (UGM) in Indonesia, another UC member, and the University of Natural Resources and Life Sciences, Vienna (BOKU) in Austria through the MS Food Security and Climate Change project funded by the European Commission’s ERASMUS+ program. The Summer School took the participants to Pahang and Negeri Sembilan to explore common agricultural practices of farmers and private companies operating oil palm-cattle integration vis-à-vis practices of oil palm plantation only.

Through the UC, all three universities have worked together to share academic expertise and resources, conduct collaborative research, and participate in faculty and student exchange programs for the development of the Southeast Asian region. Other members of the UC include Universitas Gadjah Mada (UGM) and Universitas Brawijaya (UB) in Indonesia, Kasetsart University (KU) in Thailand, University of the Philippines Los Baños (UPLB) in the Philippines, Tokyo University of Agriculture (Tokyo-NODAI) in Japan, National Taiwan University (NTU) in Taiwan, and University of British Columbia (UBC) in Canada.


https://pixabay.com/images/id-1464654/
National Taiwan University (NTU) and SEARCA collaborated for the offering of a joint scholarship for the Master Program in Global Agriculture Technology and Genomic Science (Global ATGS). The scholarship aims to cultivate agricultural professional talents, encourage academic excellence, and promote the research and development of agriculture within Southeast Asia. The Global ATGS program is offered by the International College of NTU for students to gain deeper understanding on smart farming technology, genome science research, and breeding science and technology.

It also provides an opportunity for internship and field visits in line with NTU’s efforts to connect with industries and promote hands-on training. The program’s curriculum is interdisciplinary to develop global bio-agricultural talents that are responsive to the needs of the agriculture sector and with advanced knowledge and practical skills on contemporary agriculture.

Keystone courses include global agriculture technology foresight, mathematical method for life science, and scientific writing. Under Digital Agriculture Technology, students will explore the application of blockchain technology in agriculture, process control for smart farming, plant factory, smart technology applied to livestock production, and agriculture waste treatment engineering. In Genome Science, discussions will be on genetics and genomics, crop genomic breeding, advanced plant molecular biology, core biotechnology: DNA, RNA, and protein, special topics in poultry production, and medicine and products processing. For Breeding Science and Technology, studies will be on the agriculture of Taiwan, introduction to bioinformatics, crop modeling, and plant phenotyping.

The program, offered in English, requires students to finish their thesis and at least 24 credits of coursework which includes 12 credits of compulsory courses and 12 credits of elective courses to earn the degree. Global ATGS will have its inaugural class by September 2020.

Besides this collaboration on a joint scholarship, SEARCA and NTU have been working together in different activities as both institutions are also members of the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC). NTU hosted the previous 32nd UC Executive Board Meeting in November 2019 and will be hosting the 2nd Faculty Forum this year.

Members of the Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC) initiated by the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) are among the top universities around the world according to the Times Higher Education (THE) Emerging Economies University Rankings of 2020.

The list features the 533 best universities from 47 countries. The London Stock Exchange’s FTSE Group categorized these countries as “advanced emerging,” “secondary emerging” or “frontier.” The National Taiwan University (NTU) is the 8th best university, while the University of the Philippines (UP) ranked 70th and Universiti Putra Malaysia, 106th.

Universities that placed after 200 are given ranges instead of rankings. Universitas Gadjah Mada (UGM) in Indonesia placed among the universities in the top 251-300. Kasetsart University (KU) in Thailand and Institut Pertanian Bogor (IPB) in Indonesia also landed in the list, placing in the top 301-350. Universitas Brawijaya (UB) in Indonesia was also listed in the 501+ range. The THE Emerging Economies University Rankings measure the universities based on teaching, research, knowledge transfer, and international outlook.

Among the criteria, IPB ranked the highest among the UC members in terms of Industry Income with a score of 70.7, besting even NTU with a score of 65.4 in this criterion.

In fact, among the five criteria, Industry Income is where NTU, IPB, UGM and KU scored the highest. On the other hand, UPM scored the highest in International Outlook with 69.3, while UP scored the highest in Citation with 86.9.
A SEARCA scholar from Institut Pertanian Bogor (IPB) was granted a UC Travel Grant for Training. Mr. Hernawan Yuli Rahmadi joined the other 24 graduate students who attended the Training on Writing Thesis and Dissertation Proposals jointly organized by SEARCA and the Office of the Vice Chancellor for Research and Extension (OVCRE), University of the Philippines Los Baños (UPLB).

The three-day training was conducted by Dr. Evelyn Mae T. Mendoza, UPLB Professor Emeritus from the College of Agriculture and Food Science (CAFS) and National Academy of Science and Technology (NAST) Academician, Dr. Pamela A. Custodio, Assistant Professor from the College of Development Communication (CDC) and Dr. Rico C. Ancog, Professor from the School of Environmental Science and Management (SESAM), UP Scientist III, and 2019 Outstanding Young Scientist.

The other attendees of the training came from Universiti Putra Malaysia (UPM) in Malaysia, UPLB, and IRRI Affiliate Research Scholars nearing or conducting their thesis and dissertation writing. Dr. Glenn B. Gregorio, SEARCA Director, welcomed the participants and recognized the high interest of students from outside SEARCA who would like to attend the activity.

The training is annually and exclusively offered by SEARCA through the Graduate Education and Institutional Development Department (GEIDD) to its scholars from all study posts: UPLB in the Philippines, Kasetsart University (KU) in Thailand, Universiti Putra Malaysia (UPM) in Malaysia, Universitas Gadjah Mada (UGM), Universitas Brawijaya (UB), and Institut Pertanian Bogor (IPB) in Indonesia, and Tokyo University of Agriculture (Tokyo NODAI) in Japan. For this training, SEARCA has extended its registration to select Affiliate Research Scholars from IRRI. Dr. Gregorio, who is also a NAST Academician and UPLB Professor, shared his tips on thesis and dissertation writing stemming from his own experience such as keeping it sweet and simple and to become good re-writers.

The first day of the training involved a discussion on the research process, writing the introduction, citing and writing the literature review, and writing the conceptual and theoretical framework. The second day was about quantitative and qualitative methodology, ethics in research, formatting, writing the proposal, and presenting tables and charts. Dr. Mendoza also discussed about publishing in journals and avoiding predatory journals and conferences. The last day of the training was dedicated to the attendees’ presentation of outputs and critiquing by the resource persons and their fellow trainees. A feedback that was common among all groups was their inability to finish the presentation according to the prescribed time limit. Dr. Maria Cristeta N. Cuaresma, GEIDD Program Head, recognized this as something to be improved and can be a topic of a separate training. The scholars were also reminded that they have been given the basics and it is up to them to apply what they have learned to finish their thesis and dissertation on time with the guidance of their committee and external reviewers.

SEARCA, through GEIDD, has been organizing training workshops for scholars to equip them in accomplishing their academic requirements and prepare them for their future roles as champions of inclusive agriculture and innovations for development.
Universitas Brawijaya (UB) organized its Annual Agricultural Engineering Lecture Series, through its Department of Agricultural Engineering, on 10 June 2020. The activity, which was previously offered offline, was conducted live via web streaming due to COVID-19. It was also opened to the public for the first time as it was originally held exclusively for UB students to gain knowledge from experts in the field of agricultural engineering. The lecture was also conducted in collaboration with SEARCA and Universiti Putra Malaysia (UPM).

The guest lecturer, Dr. Nazmi Mat Nawi, is a leading researcher in Malaysia who was recently awarded a SEARCA Regional Professorial Chair in the field of Agricultural Mechanization and Post-harvest Engineering. He discussed “Agricultural Mechanization in Tropical Country: Case Study of Malaysia” during the online public lecture which was also tagged as a SEARCA Professorial Chair Lecture, as part of the said grant.

Dr. Nazmi shared the importance of agricultural mechanization and presented case studies related to two important crops in Malaysia, which are the oil palm and rice. He highlighted the need to modernize the agricultural sector through mechanization, automation, and digitalization. However, the decrease of skilled labor and the ageing population of farmers, as well as the low percentage of youth engaged in agriculture, prove to be a challenge for this feat since mechanization often requires highly skilled individuals. In introducing a new technology, Dr. Nazmi advised two things to consider: productivity and cost. So, one must think how the new technology will be more productive and cheaper than what is currently available. Similarly, when adopting the technology, one must consider people’s capacity, the agricultural process to be mechanized, and the appropriateness of the technology to be used.

Dr. Nazmi explained that the process of harvesting is labor-intensive in both an oil palm plantation or in rice cultivation, and that Malaysia still experiences shortages in manpower. He also remarked that the current technology for oil palm harvesting is expensive while a mechanized rice harvesting system, such as the large combine harvester (LCH) used by Malaysian contractors, damages the soil due to its weight. As UPM is one of the leading Malaysian universities in agriculture, the institution has developed appropriate technologies to address these difficulties which Dr. Nazmi presented as part of his lecture. He has also contributed to this endeavor as he holds the intellectual property rights for the Integrated System for Processing Oil Palm Empty Fruit Bunches (OPEFBs).

Dr. Nazmi concluded his lecture by highlighting that agricultural mechanization offers a solution to labor shortages and when properly utilized, it could increase crop productivity as it improves farm efficiency. He also emphasized that research and development of technology must consider the locality where it will be used. A Q&A session was held for the online viewers from Indonesia, Malaysia, Philippines, Japan, and South Africa, with Dr. Dimas Firmanda Al Riza serving as moderator. This was followed by a closing message from Dr. La Choviya Hawa, Department Chair of Agricultural Engineering in UB, who reiterated the importance of holding such learning events to disseminate knowledge and research in the field of agricultural engineering and also to strengthen the partnership among institutions.
UC Seed Fund for Collaborative Research Recently Awarded to 3 Joint Projects

The Southeast Asian University Consortium for Graduate Education in Agriculture and Natural Resources (UC) recently awarded the UC Seed Fund for Collaborative Research to three (3) initial recipients for the first quarter of 2020.

Dr. Muhammad Heikal bin Ismail, Senior Lecturer at the Department of Chemical and Environmental Engineering, Universiti Putra Malaysia (UPM), is collaborating with Dr. Ngadish, Dr. Joko Nugroho W.K., Dr. Bambang Suwignyo and Dr. Hatma Suryatmojo, from Universitas Gadjah Mada (UGM), for the project “Investigating the effect of food and agricultural waste on the quality of biogas and bio-fertilizer” The project aims to contribute to the framework of sustainable food safety management approach and food security strategies for both institutions. The project is also an offshoot of the 1st UC Faculty Forum held at the University of the Philippines Los Baños on 23-24 July 2019.

Dr. Francis M.C. Sigit Setyabundu, Lecturer at the Department of Food and Agriculture Product Technology, UGM, is also collaborating with Dr. Warapa Mahakarnchanakul, Assistant Professor at the Department of Food Science and Technology, Kasetsart University (KU), for the project “In vitro Antagonistic Activity of Yeast Isolated from Wet Process Coffee Against Aspergillus ochraceus Growth and Ochratoxin A Production”. The project aims to isolate indigenous yeast from wet coffee that has antagonist interactions with A. ochraceus and characterize its growth profile.

Lastly, Dr. Ahmad Faizal Abdull Razis, Associate Professor at the Faculty of Food Science and Technology and Head of the Laboratory of Molecular Biomedicine, Institute of Bioscience, UPM, was awarded the seed fund for his collaboration with Dr. Fatchiya, Professor at the Department of Biology and Director of the BioSains Institute, Universitas Brawijaya (UB), for the project “Authenticating chicken breeds based on fatty acid profiles, bioactive components and whole genome sequencing”. The project aims to develop a portable biosensor for chicken authentication based on variations in trait as well as genetic variant within species of different chicken breeds.

The UC Seed Fund for Collaborative Research is awarded to research studies in line with the UC’s strategic priorities such as sustainable management of natural resource systems, food and agriculture policy, biotechnology in agriculture, food and health, information and communication technology, bioinformatics, and data management in agriculture. The planned research should also be conducted in partnership with the faculty of at least two member universities of the UC. More seed fund grants shall be awarded further this year to applicants who will pass UC’s research proposal evaluation.

Outstanding Academicians from UC Member Institutions Awarded the SEARCA Regional Professorial Chair Grant

Besides Dr. Nazmi’s numerous publications, he also holds the Intellectual Property Rights on Integrated System for Processing Oil Palm Empty Fruit Bunches (OPEFBs).

Dr. Shuhaimi Mustafa is a Professor and the Director of Halal Products Research Institute in UPM. Dr. Shuhaimi was awarded the grant in the field of Food Microbiology and Biotechnology. He finished his PhD in Enzyme and Food Biotechnology at UPM and has received multiple awards and Intellectual Property Rights for his research. As an inventor, he has also created commercialized products such as the Porcine DNA Test Kit and Thohira.

Besides the awardees from UPM, Kasetsart University (KU) had its first grantee this year with Dr. Anchasa Pramuanjaroenkij who is an Associate Professor in KU. Dr. Anchasa was awarded the grant in the field of Agriculture and Food Engineering. She obtained a PhD in Mechanical Engineering from the University of Miami, USA and has published numerous journal articles, books, and book chapters in the fields of alternative energy, thermo-fluid sciences, nanofluids, solid oxide fuel cells, agriculture and food engineering. Dr. Anchasa is currently awaiting her patent on Raw Material Preparation Equipment for Communities Transforming Insects: An Oil Separation and Meat Processing Machine for Sago Beetle Caterpillars.

To date, SEARCA has awarded 38 Regional Professorial Chair Grants to deserving individuals since academic year 2012/2013 as part of its mandate to contribute to the agricultural and rural development in Southeast Asia and following the focus of the Center’s succeeding Five-Year Plans.
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