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The ISSI News

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52 years of unwavering service to Filipino entrepreneurs



2019

International
Conference

TECHNOLOGY and INNOVATION for SMEs

3-5 October 2019

Participating countries



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ISSI, ASIP Organize International Conference on Technology and Innovation

Recognizing the critical role technology and innovation play in the small and medium enterprise (SME) sector, the University of the Philippines Institute for Small-Scale Industries (UP ISSI) collaborated with the Asian Society for Innovation and Policy (ASIP) in holding an international conference on "Technology and Innovation for SMEs" on October 3-5, 2019.

The Conference aimed to create a space for the exchange of knowledge and experiences on the impact and importance of technology and innovation to the SME sector.

The Opening Ceremony, moderated by UP Diliman Vice Chancellor for Research and Development Fidel R. Nemenzo, was held at the International Center for Public Administration (ICPA) at the National College of Public Administration and Governance in UP.



Setting the tone of the two-day event, UP Diliman Chancellor Dr. Michael Tan, in his

welcome remarks, emphasized the role of the academic community in providing the fuel for innovation in the SME sector.

He then shared some of UP's initiatives in helping SMEs, such as: *(1) the use of RFID among small vendors in the campus, which allows cashless transactions through the use of smart phones; (2) research and development in modernizing the clothing industry by reviving the entire textile industry to support our farmers, weavers, and manufacturers; and (3) collaborating with the government in its e-jepney project.*



ASIP President Prof. Sung-Soo Seol, meanwhile, gave a brief overview on ASIP, saying the first conference was organized by seven scientist-scholars from the Science City of Korea in 2010. The Philippines is the 6th country where ASIP conference is held; next year it will be held in Cambodia. Prof. Seol said ASIP conference is aimed at highlighting the importance of innovation for the continued growth and development of society, the different aspects of innovation, challenges/barriers, and good practices within the region.

The keynote speeches that followed focused on the Korean and Philippine

experiences in driving innovation and technology advancements, highlighting important insights, lessons learned and ways to move forward.

Prof. Ky-young Park of Sunchon University emphasized that developing countries should not follow the industrial development process of developed countries since most of them grew during the second industrial revolution and we are now in the fourth industrial revolution era. She said governments need to invest in innovation and technology absorption as these are fundamental drivers of economic growth in both advanced and emerging economies.

Prof. Youngil Park of Ewha Womans University identified four important factors that drive innovation and industrial development: *(1) willingness of SMEs to innovate; (2) enhancement of national intelligence capabilities and infrastructures; (3) creating an enabling environment in terms of policies and programs; and (4) establishment of mechanism for international cooperation.*

Reinforcing Prof. Park's third point on the need to create an enabling environment, Prof. Jung-Wha Han of Hanyang University explained that an innovative startup ecosystem requires an expansion in the market, increase in investments, support in technology commercialization, promotion of fair trade system, reduction in the cost of failure, and the enhancement of entrepreneurial capabilities.

Meanwhile, Korean Institute of Science and Technology Information President Dr. Hee-yoon Choi zeroed in on the importance of data-based support for SMEs, saying government and private institutions should work on improving data reliability, active use of supercomputing, and the provision of intelligent analysis service.



In his message read by UP ISSI Director Aleli Bawagan, Director Jerry Clavesillas of the Department of Trade and Industry, highlighted the country's *Inclusive Filipino Entrepreneurship Roadmap*," saying this will activate innovation and entrepreneurship as the main levers to reduce, if not completely eliminate poverty in the country.

Usec. Brenda L. Nazareth-Manzano of the Department of Science and Technology (DOST), meanwhile, enumerated the DOST's programs that are geared towards strengthening the country's human capital, providing enabling environment for innovations through the

establishment of facilities, and coming up with policy framework, which would cultivate the culture of innovation in the country and engage the people in innovation-related endeavors.

The breakout sessions that followed were held at the UP ISSI and tackled the conference's subthemes such as Management of Technology, Technology Policy, Entrepreneurship Education for SMEs, SME Policy, Future of SME & Startup Ecosystem and National R&D Investment: Its Adequacy and Implementation, among others.

Ref: Report from ASIP documentation team

Communities of Practice for Entrepreneurship (COPE) Program, which brings entrepreneurship education to communities with lesser access to such service in a formal school.



Ms. Glennis S. Uyanguren

ISSI Shares Innovative Approaches to Entrep Educ, Farm Tourism

Consistent with the conference theme "Technology and Innovation for SMEs", ISSI staff Glennis S. Uyanguren, Marvin M. Manlapas and Reynold Ferdinand G. Manegdeg presented ISSI's ongoing programs aimed at widening the reach of the Institute and adding value to its existing services.

*Reaching the farthest:
Entrepreneurship education for the
marginalized*

Uyanguren and Manlapas of the Training and Entrepreneurship Education Division (TEED) shared their experiences on the



Mr. Marvin M. Manlapas

The presentation focused on what TEED is doing in the community of Sapang Munti in Brgy. San Mateo, Norzagaray, Bulacan. Instead of the usual classroom setting, TEED staff goes to the community and teaches the basic concepts of entrepreneurship through various methods - discussions, sharing of experiences, group exercises, and simulation games. The community immersion allows the TEED staff to develop a training design that best fits the community, taking into consideration their specific realities and experiences.

Sapang Munti is composed mostly of indigenous people under the Dumagat

tribe. Four people's organizations were identified in Sapang Munti; namely, Bantay Gubat, Sining Ipo, Kabataan/youth organization, and Samahan ng mga Kababaihan para sa Kaunlaran at Kinabukasan ng Sapang Munti – the last being the main partner in the COPE program. The COPE Program is being implemented in coordination with the Field Work Program of the UP College of Social Work and Community Development.

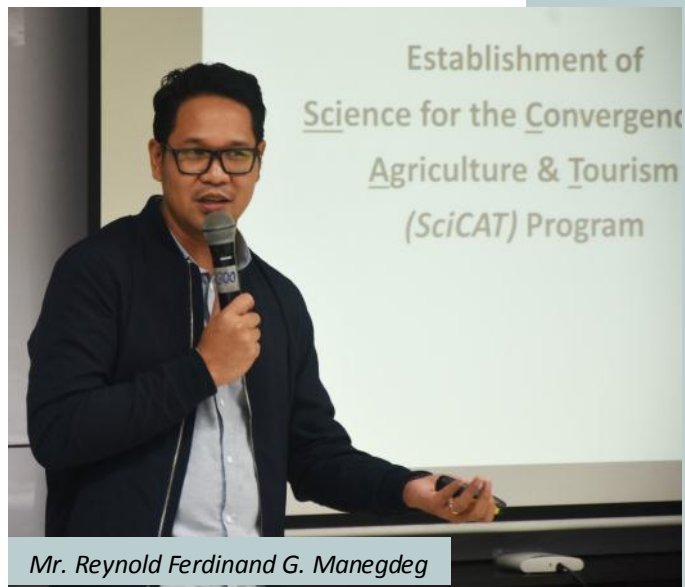
Last August, the Training Division conducted a Business Game – a simulation of the business process – in the community. This activity aimed to pique the interest of the participants to learn more and commit to the learning process. Succeeding activities are discussion-workshop modules on the four functional areas of business: marketing; operations; human resource; and finance.

Anchored on the Adult Learning in Entrepreneurship Education framework, the COPE Program examines the interplay of various elements in knowledge and skills generation: fundamentals (basic concepts of entrepreneurship); practical learning (praxis on the ground); and innovations (creative ways of producing/adding value). As knowledge can come from different sources – academics, institutional partners, practitioners, and learners themselves, this Program also aims to articulate the learnings and insights of both the educators and learners.

Innovating Agri-tech Promotion: Development of Farms as Tourism Sites

Manegdeg of the Business Enterprise

Development Division (BEDD) discussed its current program with the Philippine Council for Agriculture, Aquatic, and Natural Resources Research and Development (PCAARRD) of the Department of Science and Technology (DOST), which explores creative ways of sharing information about farm technologies through the tourism sector.



Mr. Reynold Ferdinand G. Manegdeg

Funded and initiated by PCAARRD, the "Science for the Convergence of Agriculture and Tourism" (SciCAT) Program transforms Magsasaka Siyentista Farms (farms of farmers who have been successful in their use of science and technology - based indigenous technologies) into farm tourism sites that will serve as their communities' main tourist farm attraction, generating employment and entrepreneurship opportunities. Under this program, these farms will offer tours, exhibits, and hands-on activities for tourists, while showcasing the latest farm technologies provided and funded by DOST-PCAARRD to the farmers.

Through continuous research and development, capacity building, technical

capability enhancement, and social marketing, SciCAT transfers information on technology to different market segments with the hope of inspiring people to also go into farming, or for existing farmers to replicate these technologies to improve productivity.

SciCAT is a collaboration between PCAARRD and partner institutions - ISSI, Department of Agriculture, Department of Tourism, and selected State Universities and Colleges (SUCs) - that have the mandate and the capacity to help farms incorporate tourism elements and adopt new farm technologies that will be showcased to visitors.

For its part, ISSI assists in the capacity building of farmers and other partners in the areas of enterprise planning and management.

Ref: Report from ASIP documentation team

get? Innovations that will change our lives and the society for the better.

On the last day of the ASIP Conference, three students from UP Diliman College of Engineering presented their innovative concepts that could help SMEs and the society, in general.



ASIP President Prof. Sung-Soo Seol, Prof. Mohan Avvari of Nottingham University, Prof. Chi Renyong of Zhejiang University of Technology, UP ISSI Director Aleli Bawagan and the students.

Millennials at Work: UP Students Present Innovations for a Sustainable and Healthier Society

We live in an age where science and technology is just within our reach, changing the way we do things and making our lives so much easier.

So when the younger generation, with their wit and grit and the passion to make a difference, harnesses the power of science and technology, what do we

Cloop: Disrupting the recycling industry

Glenn Adrian Ongpin talked about "Cloop", a start-up company that develops plastics recycling technology and makes it accessible to underserved communities.

Cloop aims to help communities, such as those in urban dumpsites and coastal areas, which do not have proper waste management system because of lack of access to large recycling facilities (as these require large amounts of investment).

Cloop develops a package of four recycling machines: a shredder, an extruder, an injection molder, and a compression molder. It aims to create a

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network of micro-enterprises and SMEs specializing in upcycling plastic waste operating in areas that need it the most.

Cloop (formerly InPHinite Loop) started as a one-time activity called "Project Plastikan" under the UP Diliman Humanitarian Engineering, Entrepreneurship, and Design Group which aimed to help a women's community in Malabon have sustainable income by providing plastic recycling machines.

Ongpin co-founded Cloop with two of his Project Plastikan partners.

Rethinking wastewater treatment

Miguel Lawrence Keith SJ. Celebre discussed the technology he is currently working on, which treats textile wastewater for methylene blue and other cationic dyes.

Methylene blue (MB) is a non-biodegradable synthetic dye that is widely used in the textile industry. It has a very strong color even in dilute concentrations. The textile and dyeing industries are some of the most water-intensive industries globally, producing approximately 100 tons of dye-contaminated wastewater per year — the highest amount produced by one industry alone. If discharged to the environment untreated, dye-contaminated wastewater poses health and environmental threats. Further, the presence of color in bodies of water reduces the amount of transmitted light that is available for use of photosynthesizing aquatic organisms like plants, algae, and bacteria.

Celebre said "polymeric adsorbent beads", the technology he is working on, was found to have a maximum MB sorption capacity of 1081.62 milligrams of MB per gram of adsorbent. This is higher compared to other adsorbents for MB that have been studied for the past six (6) years, the adsorption capacities of which are only around the hundreds. Kinetic studies were also conducted, and it was found that the beads only require 2.5 hours to reach equilibrium—the state where there is no longer any observed removal of MB.

With this technology, operating costs can be reduced by recycling of the purified water and costs for third-party wastewater treatment will be cut down almost entirely. MB will be sequestered in the adsorbent and can be stored until time for disposal or treatment, without any risk of fugitive MB emissions.

Exploring potential treatments for kidney stone disease

While the first two technologies focus on the environment, Ma. Charlene C. Tapia's innovative concept aims to respond to the increasing incidence of kidney stone disease (nephrolithiasis), particularly the calcium phosphates (CaP) stones.

Tapia explained that while the current commercially available medication is able to slow down the growth of these stones, it can however increase urine pH, a condition in which the most stable form of CaP is formed.

She said her project aimed to explore for other possible inhibitors that will prevent the increasing occurrence of kidney



Prof. Mohan Awari of Nottingham University, UP ISSI Director Aleli Bawagan, the students, Prof. Chi Renyong of Zhejiang University of Technology, and ASIP President Prof. Sung-Soo Seol

stones and allow more choices of treatments for patients.

Tapia then explained that based on earlier studies and her initial experiments, hydroxycitrate (HCA) was found to be an effective inhibitor. Found in some plants such as *Garcinia cambogia* and *Hibiscus sabdariffa*, HCA can change the shape of the crystal, reduce the number of crystals formed and can even dissolve the CaP crystal.

Tapia said that the results of her study may serve as a step in understanding the effect of HCA on CaP crystals and to aid SMEs in designing formulation of drugs or food supplements targeting kidney stone disease.

The three students presented their projects to a panel composed of ASIP

President Prof. Sung-Soo Seol, Prof. Mohan Avvari of Nottingham University, Prof. Chi Renyong of Zhejiang University of Technology and UP ISSI Director Aleli Bawagan.

The panel members commended the students for their innovative projects and the potential impact they can create in society. Prof. Seol and Prof. Chi advised the students to work with partners for the sustainability of their projects. Prof. Avvari advised the students to explore funding outside the Philippines. Director Bawagan mentioned about UP ISSI's incubation program as a next step the students may consider.

Ref: Report from ASIP documentation team

SME Bazaar: Showcasing A Different Side of the ASIP Conference

An SME Bazaar was organized during the 9th Asian Society for Innovation and Policy (ASIP) SME Conference last 3-5 October 2019 at the UP ISSI. Thirteen local companies were represented at the ground floor of the Institute, showcasing different products from footwear, to local delicacies, and others. The following were present during the 3-day bazaar: King Dock Marikina, featuring their fashionable and timeless shoes for men; Maria Kim Collection, with their kikay and classy footwear collection for women; The Bamboo Company paraded their various eco-friendly bamboo products like bamboo straws, tumbler, coffee press, toothbrush, floss, sunglasses, phones cases, and watches.

Meanwhile, Densio's Sweets and Delicacies from Bulacan, gave samples of pastillas, otap, macapuno, and chicharon for your cheat day; Ruthy's Cassava Chips from Bataan and Terio's Garlic Chips and Nuts offered healthier snacks on the side; Mhersayan Arts and Crafts brought Bataan memorabilia for everyone's delight; an innovative product by Rachel's Black Kutsinta, a fusion of mini black kutsinta topped with yema spread;





and Cakes by Juvie offered choco butternut and ube leche flan for everyone's grabs.

Also, Start Your Own Business graduate showcased her handmade hats, bags, and wallets made from local fabrics and prints, while visiting Nomadic Creations' products filled everyone with interesting finds of organic and artisan soaps with colorful yoga pants, bags, and accessories. MeiScents, meanwhile, presented their scents inspired by famous brands while Casado's Embroidery exhibited their hand-crafted embroidered barong and pina fiber products.



Learnings of a Filipino Researcher in an International Research Conference

UP ISSI recently hosted the ASIP 2019 International Conference last 3-5 October with the theme "Technology and Innovation for SMEs." Various foreign voices and international concepts abound during the conference, especially with a culturally diverse line up of paper presenters and workshop moderators. Amidst all these, we sat down with a Filipino participant and listened to his voice. We learned anew when we heard from Mr. Nuhman M. Aljani, a Science Research Specialist from the Department of Science and Technology (DOST) and concurrently a graduate student at the UP Technology Management Center. We hope attendees, and even those who were not able to attend the Conference, will get to benefit as well from these pockets of knowledge from Mr. Aljani:

1. Collaboration: The "triple helix" composed of the Industry-Academe-Government is an evident driving force towards promoting research and development in our neighbor countries. Mr. Aljani reasoned that Malaysia's government spending on R&D is 5 times greater than the Philippines. In addition to funding support, he suggested that legislative backing would also be helpful to institute in our country. Policy makers could refocus allocations for R&D, outputs of which may in turn be utilized by the private industry.
2. Prioritization: In light of limited funds, Mr. Aljani suggested calibration to see if resources are sufficient to support R&D. In terms of researches about technologies, prioritize appropriate and mature ones ready for implementation.

He mentioned the Pareto Principle, and asserts that for efforts to be significant and relevant, actions should target the vital few that would bring about the most improvement in the industry.

3. Commercialization: The private industry would only benefit from R&D if the outputs would be packaged in a form that could be utilized by end

users. Mr. Aljani stressed the importance of commercialization: Researches should be out there in the market, not kept on the shelves.



Mr. Nuhman M. Aljani

4. Synchronization: *"R&D initiatives, though well meaning, tended to be unsynchronized as each agency has similar but separate projects towards the same direction,"* observed Mr. Aljani. He cited his hometown to provide an example, and said that Region 9, the Zamboanga Peninsula, is rich in seaweed and rubber. DOST has the Small Enterprise Technology Upgrading program helping micro, small, and medium enterprises (MSMEs) in terms of production technologies. The Department of Trade and Industry has the Shared Service Facilities program for MSMEs to have a common-use resource for processing. The academe has researches on technical aspects of commodities. All efforts would bring about more value add to the seaweed and rubber industry if actions are contributory and complementary, and if these are consistent among the 17 administrative regions of the country.
5. Appreciation: Mr. Aljani's most encouraging realization is with regards to the technological maturity of the Philippines. The country's environment for technology development and innovation is now capable to handle a stronger push. A national policy directed towards strengthening R&D efforts could advance the innovative mindset of our countrymen and bring about more Filipino-made technologies for Filipinos.

Mr. Aljani thus ended the interview on a positive note, one that is forward looking to the continuing internationalization of Filipino researches and researchers.

Roy D. Apacible
EDITOR

Melanie V. Cabotaje
Karen Kay B. Coballes
Allysa Anne De Guzman
Jocelle P. Mamaril
Jefferson C. Sumalabe
Glennis S. Uyanguren
WRITERS

Daryll D. Villena
LAYOUT ARTIST/
TECHNICAL ADMINISTRATOR

Darrem S. Bautista
Allysa Anne De Guzman
Daryll D. Villena
PHOTOGRAPHERS

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UNIVERSITY OF THE PHILIPPINES INSTITUTE FOR SMALL-SCALE INDUSTRIES

E. Virata Hall, E. Jacinto Street
UP Diliman, Quezon City
ISSI Trunkline (632) 8928-7077 to 79
UP Trunkline 8981-8500 local 4051-4054
TM/Globe – 0975-504 9539
TNT/Smart – 0909-029 1885
E-mail: info.issi@up.edu.ph
www.issi.upd.edu.ph

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