

Nest Garage

Volume
6
2020 • 9

PEREGRINE OF KNOWLEDGE, EXPERIENCE AND SCIENTIFIC WONDERS

Featured Topic 1
Entrepreneurship Development
Featured Topic 2
Education Development
Featured Topic 3
Research Development
Featured Topic 4
Human Resource Development

FREE COPY

Nest Garage

2020.9 VOL. 6

Issuer

Leave a Nest Malaysia Sdn. Bhd.
(1066170P)
Found8, 5, East Wing, Level 3,
Jalan Stesen Sentral,
Kuala Lumpur Sentral,
50470 W.P. Kuala Lumpur.

Chief Editor

Idarahayu Ayob

Editors

Dr. Kihoko Tokue
Shohei Maekawa
Abdul Hakim Sahidi
Fatin Ilyani Abdul Ghani

Writers

Nur Ahmad Zaim Hussin
Elizabeth Wee
Chan Hui Ling
Dr. Ravikrishna Ramanujam
Muhammad Laduni Aslan

Designer

Nur Aiza Zainol Abidin

Printing Company

Attin Press Sdn. Bhd. (595562 M)
No. 8, Jalan Perindustrian PP4,
Taman Perindustrian Putra Permai,
Bandar Putra Permai,
43300 Seri Kembangan, Selangor.

Contents

Featured Topic 1 : Entrepreneurship Development

- 4-5 TECH PLANTER's Web of Deep Innovation Ecosystem in ASEAN
- 6-7 Grand Winners of TECH PLANTER ASEAN 2020
- 8 Sneak Peak of Innovation Ecosystem in Indonesia

Featured Topic 2 : Education Development

- 10 Research-Based Education Complements The STEM Education
- 11 Implementation of RBE in Malaysian Education System
- 12 Interest in Science Creates Future Young Researchers
- 13 Nurturing Students Through Research-Based Education
- 14 Incorporating STEM In Education: Insights From Vietnam
- 15 Tsunagu Research Project
- 16 SCIENCE CASTLE in ASEAN 2020

Featured Topic 3 : Research Development

- 18-19 Overview of Hyper-Interdisciplinary Conference
- 20 NEST-Bio Venture Lab : The Catalyst of ASEAN-JAPAN R&D Ecosystem
- 21 LNest Grant
- 22 Leave a Nest Research Report: How Deep-Tech Startups Conduct Their Manufacturing Smoothly

Featured Topic 4 : Human Resource Development

- 24 Journey Of A Passionate Young Technopreneur
- 25 The Route To Support Youth Entrepreneurs
- 26 An Alternative Perspective To Preparing For The Future
- 27 Leave a Nest Members in Singapore and Malaysia

Message From The Chief Editor

Peregrine of Knowledge, Experience and Scientific Wonders summarized and analyzed specific patterns of needs in entrepreneurship, education, research and human resource that Leave a Nest Malaysia and Singapore have gathered through our actual case studies and interactions with inspiring teams and organizations in ASEAN. They have made our knowledge manufacturing journey a true privilege and we shared with you some of the results in this volume. We hope you will use wide-angle lens to scan for passionate teams who want to advance science and technology for global happiness and support their big vision.

Idarahayu Ayob



ENTREPRENEURSHIP DEVELOPMENT

TECH PLANTER ASEAN 2020: VOYAGING THE UNPREDICTABLE FUTURE



TECH PLANTER's Web of Deep Innovation Ecosystem in ASEAN

It's already six years since Leave a Nest launched TECH PLANTER in Japan and then rapidly expanded to Southeast Asia. Now, TECH PLANTER is being conducted in 6 ASEAN countries including Singapore, Malaysia, Thailand, Philippines, Indonesia and Vietnam. Through this journey, we have seen many Deep technologies developed by passionate researchers and startups to solve Deep issues around the region. We also could see the change in terms of maturity of each technology become better each year. More and more research being proposed has a great market viability and could attract more corporate partners to collaborate and commercialise it. Let's see the summary of each country's TECH PLANTER below.



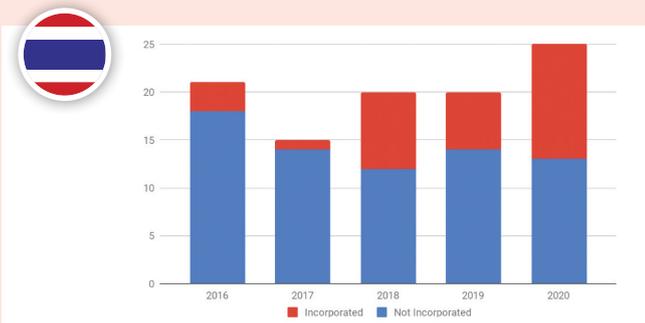
Singapore

TECH PLANTER Singapore (TPSG) started as the first TECH PLANTER in Southeast Asia where it was kickoff in 2014 right after TECH PLANTER launched in Japan. Started with only 18 teams in the first year, TPSG now gathered 170 teams all together and the ecosystem is expanding steadily with the support from government agencies, venture capitals and big corporations. From the graph, we could see most of the applicants already incorporated and commercialized their technology.



Malaysia

TECH PLANTER Malaysia (TPMY) was started as the second TECH PLANTER in ASEAN back in 2015. First TECH PLANTER in Malaysia gathered only 13 passionate researchers and startups but now entering the 6th years of organising, TPMY has grown into a sustainable ecosystem comprising 194 teams and supported by local government agencies and other supporting partners in Malaysia. For 2020, TPMY received 38 applications with most of the technologies still in research or early commercialization stage.



Thailand

TECH PLANTER Thailand (TPTH) launched in 2016 where the first inaugural program managed to gather 21 applications. Now, the community of researchers and startups in TPTH reached 101 teams in total. The ecosystem also received strong support from the local government agencies and universities there. For 2020, TPTH received 25 applications with most of the applications coming from Deep, Bio and Medical technology fields. In terms of maturity, we could see more matured technologies and incorporated startups coming from the country.



Philippines

TECH PLANTER Philippines (TPPH) started in 2017 where it recorded 29 applications in its first year. Now the community has grown and already joined by 142 teams within 4 years only. In 2020, TPTH with strong support from local government agencies, successfully gathered 34 teams. We also could see that each year, more startups applied to our program as compared to unincorporated teams.



Indonesia

TECH PLANTER Indonesia (TPIDN) was inaugurated in 2018 where 31 teams applied during the 1st year. TPIDN continues to expand with the support from local partners and now 95 teams already in the community. As we could see from the graph, Indonesia is a bit different from other countries where we could see more university researchers participate as compared to the number of startups that joined our program. This is because the ecosystem of real-tech startups in Indonesia is at early stages.

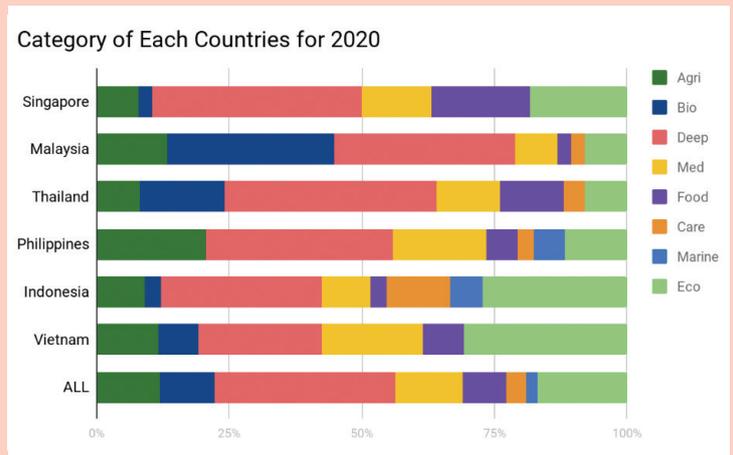


Vietnam

TECH PLANTER Vietnam (TPVN) was introduced in 2018 the same year as Indonesia. The first inaugural program managed to receive 20 applications and now 68 teams are in the community. For Vietnam, we could see the ratio of non-incorporated teams are always higher as compared to incorporated teams. This also indicates that the ecosystem of Real-Tech startups is still at the development stage for the country.

Highlights of Categories for 2020 round

As what we could see from the graph below, we can say for 2020, all countries have strong proposals in the Deep-Tech area. But what's more interesting is the other fields that each of the countries are developing. For example, the number of Food-tech and Eco-tech are increasing in Singapore while Agri-tech and Bio-tech are not really their focus. In Malaysia, we could see a lot of proposals coming from Bio-tech and Agri-tech areas because Malaysia is rich in biodiversity and agriculture activities. For Thailand, their big focus is in bio-tech and Med-tech fields. Only in the Philippines and Indonesia, we could see technologies of Marine-tech being proposed. This is because as an Island country, they have more issues related to marine and aquaculture activities. Last but not least, we could see that Vietnam is focusing more in Eco-tech towards solving issues related to the environment problem in the country.



Be Part of TECH PLANTER Ecosystem Builder and Partners.

If you are from big corporations and would like to expand your business in ASEAN region, being part of TECH PLANTER's partners and supporters will allow you to tap in the frontier technologies, passionate talents and discover the deep issues existing in the local society. All these resources are crucial in supporting the business development. Leave a Nest could share our experience and support your corporations to accelerate your footworks in Southeast asia. Talk to the representatives to find out how!

Writer:
Abdul Hakim Sahidi
 Editor:
Dr. Kihoko Tokue



GRAND WINNERS



INDONESIA



Team name • Green Well

Theme

- Green Well : for more production and better quality.

Issues

- Overflow of water when heavy rains happen and water storage during drought system.

Solution

- Groundwater Well system that can filter water and give better absorbance to the ground.



MALAYSIA



Team name • iRADAR-GBSAR

Theme

- Ground-based surface deformation monitoring radar.

Issues

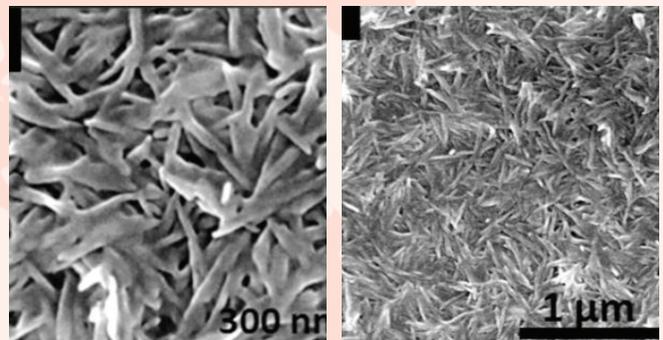
- Monitoring of landslides and ground movement.

Solution

- Interferometric synthetic aperture radar.

Uniqueness

- Record measurement in all weather conditions, accuracy of detection up to sub-mm at long distance (1-4 km), send data and inclusive software for data processing.



VIETNAM



Team name • Biomass Lab

Theme

- Super material and potentially wide-use material from waste slurry.

Issues

- Paper factory dispose a high volume of paper waste slurry which can be useful if processed instead.

Solution

- Feeding the waste to bacteria prior to hydrolysis in order to produce high quality nanocellulose used in various industries.

OF TECH PLANTER ASEAN 2020



THAILAND



Team name • IQmed Innovation

Theme • Beating heart in a box.

Issues • Issue of deteriorating conditions of the heart when preserved in cold storage.

Solution • Portable active heart transportation based on Langendorff method.

Uniqueness • The heart beats while being transported.



PHILIPPINES



Team name • LESSTICS

Theme • Waste plastics as raw material for housing construction.

Issues • To tackle unemployment and solve the issue of single use plastic.

Solution • Production of boards used for construction using waste plastics by using shredding of plastic and a special adhesive.



SINGAPORE



Team name • CytoMed Therapeutics

Theme • Cell therapy product for cancer immunotherapy.

Issues • Lack of infinite starting material for the production of broad-spectrum, high-quality and efficacious cell therapy product for cancer treatment.

Solution • iPSC as an ideal and infinite starting material to generate a novel, safe (without gene editing), universal, broad spectrum off-the-shelf" cell therapy product for cancer immunotherapy.



Prof. Dr. Ir. Hadi Karia Purwadaria,
Co-Founder &
International Liaison,
AIBI Network

Sneak Peak of Innovation Ecosystem in Indonesia

Indonesia is the largest economy in Southeast Asia and one of the emerging market economies of the world. But how the innovation ecosystem in the country is driving the pace of the nation's economic growth? To discuss the innovation ecosystem of Indonesia, we interviewed Prof. Dr. Ir. Hadi Karia Purwadaria, Co-Founder and International Liaison of Association of Business Incubators in Indonesia (AIBI Network) or known as the "Father of Indonesia Business Incubators".

Birth of Innovation Ecosystem In Indonesia

When Prof. Dr. Hadi started working as an academic researcher in 1980, there was a misinterpretation of the meaning of innovation. Researchers always think that having the result of research is already considered as an innovation. They didn't really think about the commercialization part. Around 1995, ASEAN countries were proposed by the United Nations Industrial Development Organization (Unido) to establish technology business incubators in each country to accelerate the commercialization of innovation. The Ministry of Cooperatives and SMEs of Indonesia then launched business incubators at three universities and one under the government. Prof. Dr. Hadi was given the responsibility to establish a business incubator at Bogor Agricultural Institute (IPB). It was a great challenge as the researchers needed to be trained to think about commercialization. Although they were themselves not allowed to be involved in business management or started their own business.

Empowering the Innovation Ecosystem Through AIBI Network

In 1995, the Indonesian government launched the National Entrepreneurship Program which resulted in more business incubators being launched. Unfortunately, some of the incubators did not survive and closed due to insufficient funds. Therefore, to strengthen the business incubators ecosystem in Indonesia, Prof. Dr. Hadi and nine co-founders established AIBI Network, an organization that oversees all business incubators in Indonesia. Through AIBI, they've managed to do training programs on the real meaning of innovation and enhance the capabilities of those business incubators. After 20 years of building the innovation ecosystem in Indonesia, Prof. Dr. Hadi thinks there are still gaps to be filled up especially for Deep Technologies (deep tech). There is not enough support in terms of funding and development programs for Deep Tech startups. Most venture capital firms are interested in IT-based startups for fast return of investments. Meanwhile, for Deep Tech startups, they are having problems even just to create their product mould. There are a limited number of manufacturers for industrial machineries in Indonesia and their capabilities are limited.



TECH PLANTER Completed the Puzzle

In 2018, when Leave a Nest introduced TECH PLANTER in Indonesia, AIBI Network led by Prof. Dr. Hadi became the Strategic Partner and gave strong support for the program until today. When asked his opinion about TECH PLANTER, Prof. Dr. Hadi said "I think TECH PLANTER is a complete ecosystem with the right partners to support Deep-Tech startups and bridge them to the global ecosystem especially Japan." One of the notable Indonesian startups that marked a great success in the TECH PLANTER ecosystem is TECH PROM Lab that won the TECH PLANTER World Communication 2020 and received prototyping support from Japanese manufacturer. Prof. Dr. Hadi believes that TECH PLANTER could be expanded to support more startups and drive the growth of Indonesian economy.

Writer:
Abdul Hakim Sahidi
Editor:
Idarahayu Ayob

EDUCATION DEVELOPMENT

BROADEN YOUR KNOWLEDGE THROUGH RESEARCH





Research-Based Education Complements The STEM Education

The world is moving forward into IR4.0 and people need to be equipped with 21st century skills for us to face the upcoming challenges. This is where STEM education plays a role to empower individuals with the skills to succeed and adapt to this changing world. Despite implementation of STEM in the education system, some of the country faces the challenge of declining interest in students towards sciences and technologies. To overcome this challenge, Leave a Nest is promoting Research-Based Education (RBE) as a method to enhance STEM education.

Leave A Nest's RBE Strategy

Based on the study from the Journal paper, "Research-based education as a model to change the teaching and learning environment in STEM disciplines" by Isabel Huet (2017), RBE approach is believed to help to increase the interest, motivation and as well as student understanding in science and technology. Leave a Nest has implemented RBE in their educational program. One of the programs is Science Castle where in this program, students are encouraged to perform their own research and share it with their fellow friends and get constructive feedback from judges who are researchers and people from the industry. In the Science Castle program, students do not just share their knowledge but also learn from other participants who conduct research in different fields.

Synergy with Private Sector

Leave A Nest also works with corporations to promote education, especially RBE. Corporations have a big role to contribute in nurturing the next generation. If not, they will have difficulties to get good talents in future. In Japan, Leave A Nest collaborated with a beverage company to conduct a workshop on Lactic-Acid Bacteria Lab. In this program, children can understand deeper

on lactic acid bacteria and also about fermentation. This kind of research-based workshop not only gives knowledge but also nurtures the sense of curiosity among students.

RBE Influence to the Young Generation

One of the signature RBE's program for Leave A Nest Malaysia is NEST Camp. In this camp, students learn about the ecosystem interaction in terms of soil, water and plant. They search for the specimens and perform several experiments including identifying the type of microorganisms under microscope and it really triggers excitement for the students. There was a student who didn't have interest in soil at all. However, after joining the camp, he became interested in the subject and wanted to further research about it.

In a nutshell, research-based education is important in order to develop the passion to learn science and technology. From passion, students will develop skills in order to further understand theoretical and application of science in real life. Hence it can increase the number of graduates in the science stream. Leave a Nest believes that RBE will complement STEM education in promoting students to learn Science and Technology.



Science research workshop by Leave a Nest Malaysia

Implementation of RBE in Malaysian Education System

Research-Based Education or Research-Based Learning may not be an entirely new concept in the context of Malaysian education system. The terminology maybe new, but in terms of the application, it may have already been integrated into the national education system decades ago. This integration refers to the Science Labs and Practical Assessment for Science subjects within the national examinations. We interviewed Mr. Ramesh Pillai, Executive Secretary of MACRI (Malaysia Association of Creativity & Innovation) & Community Engagement Director of STEM 4All Makerspace who passionately shares his thoughts on this subject.



Mr. Ramesh Pillai,
Executive Secretary of MACRI
& Community Engagement
Director of STEM 4All
Makerspace

Challenges in Malaysia's RBE

Back in the early 90's it was mandatory for students to sit for practical examinations in Chemistry, Biology and Physics. However, by the late 90's the need for practical examinations was shelved by the National Examination Board. In Mr. Ramesh's opinion, this could be one of the reasons why our students paid less attention to the importance of science, leading to the declining interest and performance in STEM related subjects.

Practical science lessons conducted in school helps to arouse inquisitiveness and reinforce the culture of creativity. Student's science projects and experiments in the science labs serve as a foundation for fundamental research. Therefore, it is imperative that students are constantly exposed to science projects and challenge to sharpen their analytical and problem-solving skills that are essential for the Industry 4.0 job market.

Initiatives to Strengthen RBE

The Ministry of Education recognizes the importance of STEM education, and five years ago had established the National STEM Centre to bolster the interest and competence of students in STEM related subjects. Inquiry Based STEM Education (IBSE) is among its flagship programs to help students improve their observation and presentation skills. The Centre also encouraged the establishment of the STEM 4All Makerspace in association with MACRI to serve as a hub for STEM experiential learning programs ranging from coding to robotics and aerospace to biosciences. According to Mr. Ramesh, to date, there are hundreds of programs conducted for the benefit of thousands of students.

Future of STEM Education in Malaysia

Moving forward, Mr. Ramesh believes that the support from corporate organizations and industry would be very important to help accelerate STEM education

in Malaysia. Towards this end, the accomplishments of Leave a Nest in engaging with researchers and corporate organizations in the field of science and engineering is very admirable and should be emulated in Malaysia. He hopes that Science and Technology based companies in Malaysia would also collaborate with schools and offer students the opportunity to undertake RBE projects in the same way Leave a Nest has done successfully.

The involvement of parents and community with the support of industry experts is vital for our students to be equipped with skills needed for IR4.0. "RBE would be an excellent program for schools and it is hoped Leave a Nest will play a leading role in bringing together researchers and industries to collaborate with STEM 4All Makerspace and National STEM Centre", says Mr. Ramesh before the interview ends.

Writer:
Nur Ahmad Zaim Hussin
Editor:
Idarahayu Ayob



From left: Muhammad Nasim Mubarak, Nandagesta Aurelia Shafa Wagmi, Nadia Riqqah Nurlyla, Haidar Azzamuddin.

Interest in Science Creates Future Young Researchers

HPV Strip Team is a team of four young students from Kota Malang, East Java, Indonesia. Their research project, HPV Strip is on detecting the early stage of cervical cancer. TECH PLANTER in Indonesia 2020 (TPIDN) was the first time in Leave a Nest Malaysia's history to have a research team from high school as a finalist and to receive the Leave a Nest Award. In this interview, we share their experience in science research based on their strong interest in research-based learning.

Key Questions To Start Research Project

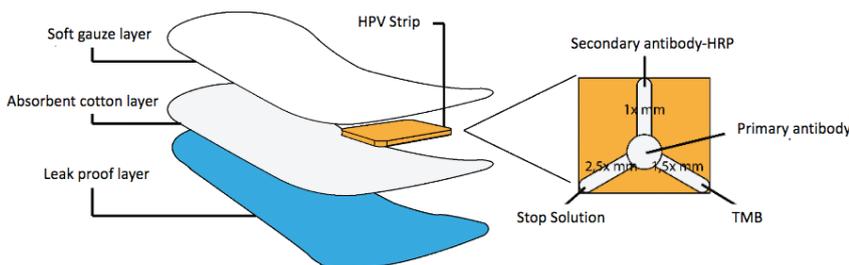
In forming this research team, Ms. Nandagesta was the first person who brought the research team together. It started when her aunt was diagnosed with cervical cancer at third stage. She lost the battle and that was the turning point for the research team to work together with the same passion and mission to save women's lives. The project is also to create awareness among Indonesian women to get themselves checked for cervical cancer. With the support from their school teacher, Mr. Fathor Rahman, the team joined the Olimpiade Research Team. They also reviewed many scientific journals to understand about the research procedures.

Challenges to Become Reality Next Steps for Future

There were many challenges that the team had gone through for this research. However, their main challenge was to find the right supporter for their research project. Their first supporter is Lembaga Ilmu Pengetahuan Indonesia (LIPI), introduced by the Olimpiade Research Team. LIPI supported the team to get the research materials, access to laboratory equipment and provide a mentor. As mentioned by the team, the main material needed for the research, HPV18L1- capsid antibody (IgG) ELISA Kit could not be found in Indonesia but LIPI managed to help them source for it. Therefore, by getting the right research supporter, the team can broaden their perspective and get the research project running smoothly.

Moving forward, the team would like to further improve their research project. This year, they are targeting to conduct product and market validation. As a start, they are planning to collect 60 samples. It is also to compare the accuracy of their cervical cancer detection with other available methods in the market. In addition, TPIDN 2020 has given them the exposure and inspiration to become a startup in the next five years. They would like to grow their business to international level.

In conclusion, as this team has been involved in research-based projects since four years ago, it is very encouraging for the younger generation nowadays to learn and explore their curiosity through research-based learning in school. By doing research-based projects, the team believes that they can also become young entrepreneurs in the future. Furthermore, it helps to nurture deep interest in science related subjects at school. We hope to nurture more young researchers in the future.



Product Diagram

Writer:
Fatin Ilyani Abdul Ghani
Editor:
Idarahayu Ayob

Nurturing Students Through Research-Based Education

Ms. Dao Thi Hong Quyen is currently a biology teacher with Le Hong Phong Gifted High School, Nam Dinh Vietnam, one of the best high schools in Vietnam. She has an extensive experience portfolio, starting her career at an international school that aligns the Vietnamese curriculum with those of Cambridge. Thereafter, she joined a normal high school where the students' education interest profile diverged. She later moved on to her current school; similar to her experience, high schoolers were imparted university knowledge via learning from university textbooks. From her experience, we will take a look at nurturing students through research-based learning in Vietnam.



Ms. Dao Thi Hong Quyen
with her students

Vietnamese High School Traditional Route of Teaching

"In a biology class, students have never used a microscope although they learnt its usage by heart, maybe that is why there is a decrease in students' love in biology" – Ms. Quyen Dao sees the issue of schools and lecturers educating students only on theories for examinations purpose, without practical sessions. In Vietnam high school, lesson plans must be based on textbook knowledge. Recollecting back to her high school days, she had a very unique biology teacher who has an open mind and teaches his students critical thinking. Under his influence, Ms. Quyen Dao learnt about finding herself and confidence.

Transforming Experiences and Passing On To The Future Generation

As a teacher now, Ms. Quyen Dao wants to help students grow and often tell her students to "learn something that gives unlimited freedom to your vision". She organises projects and encourages students to participate. One project is BIOPLASTIC where the students and Ms. Quyen Dao works together and discusses methods, materials and experiments on bio-plastic synthesis from organic materials. Although she had to provide help to the students as the materials were not taught in school, the students managed to create and design experiments at the end of the project.

Going Out Of Boundaries to Achieve More

"Students who joined the projects want to demonstrate their ability in real situations, not only in class." Motivating Ms. Quyen Dao and the students, one of the students who participated in the project grew to become one with the most achievements in school. Students also get the chance to research about the genetic risk of the Vietnamese population and diseases. Although they are limited by the lack of scientific knowledge and experience in the laboratory, their desire to learn will not stop them.

Overall, the experience is definitely unique for Vietnamese high schoolers as they experience both successes and failures through the experiments. Ms. Dao Thi Hong Quyen's passion in nurturing students through research-based education allows students to achieve greater growth.



Making BIOPLASTIC

Writer:
Chan Hui Ling

Editor:
Fatin Ilyani Abd. Ghani



Mr. Truong Vo Huu Thien,
Founder of GaraSTEM

Incorporating STEM In Education: Insights From Vietnam

STEM is a curriculum focused on the concept of educating students in four specific disciplines namely Science, Technology, Engineering and Mathematics. What separates STEM from the traditional science and math education is the blended learning environment that teaches students how the scientific method can be applied to daily life. In Vietnam, GaraSTEM is the pioneering startup specializing in the production of STEM learning tools. We interviewed Mr. Truong Vo Huu Thien, Founder of GaraSTEM to share with us some insights on STEM education in Vietnam.

STEM Education In Vietnam At A Glance

The needs to equip students with the relevant 21st century skills have encouraged Vietnam to integrate STEM in their education system. Ever since the introduction of STEM in 2016, STEM education in Vietnam shows a positive response. Mr. Truong Vo Huu Thien said the government is very supportive of implementing STEM education throughout the country. Every school in Vietnam is now required to use the new official textbooks for relevant subjects which incorporate STEM elements.

Challenges As An Industrial Player In Supporting STEM Education

In supporting STEM education as an industrial practitioner, there are some challenges faced by GaraSTEM. Mr. Truong said that it is much easier for them to approach and support STEM education in private schools compared to public schools. In order to approach public schools, they will need to work with the government by conducting a STEM conference and invite all school principals to join the program. Through this conference, the government will provide an intensive explanation on STEM education and then GaraSTEM will use the opportunity to introduce their STEM learning tools to be used as part of an equipment in the STEM curriculum.

Overcoming The Impossible

In order to achieve impactful outcomes of their program, they conduct a series of conferences and training for the teachers on how to use their product effectively. Not only that, to lead the market they need to be fast enough in creating kits that could fulfil the needs of the STEM educational program which can attract not only male students but also female students. Eventhough their business also get affected by the Covid-19 pandemic, they still manage to move forward by digitizing their business.

He believes and envisions that in the next five years, STEM education in Vietnam will be very popular to the extent that every student in Vietnam will know about STEM. In an optimistic tone, Mr. Truong left us with one remarkable hope - "It is through STEM education, we can nurture and incubate Vietnamese youths' creative dreams and that will be the key for transformation of this country". We hope that no students will be left behind and they are able to get benefit out of STEM education so that they will have a better future ahead.



GaraSTEM product

Writer:
Muhammad Laduni Aslan
Editor:
Abdul Hakim Sahidi



TSUNAGU RESEARCH PROJECT

“ Together, let’s connect the dots ”

Leave a Nest has launched the **Tsunagu Research Project** for middle and high school students in ASEAN and Japan. **Tsunagu** is a Japanese word which means “to connect”. This project is to enhance students’ connection to researchers through their research activities. It is an initiative that gives students a global perspective, opportunity for cross-border teamwork and deepens their research knowledge. In this project, students from Japan, Singapore, Malaysia, and Philippines will be participating. The students will carry out research for half a year while sharing and comparing data with one another to improve their research.

| TIMELINE | THEME | VENUE |
|--------------------------|--------------|------------|
| August 2020-January 2021 | Soil science | Via online |



Research Activity

Feature Activities



Mentoring Session



Presentation



Online Discussion

Project Timeline

August 2020

Start Research

September - November 2020

- Mentoring Session
- Online Discussion

December 20, 2020

Presentation

January 2021

Reflection Session

For more info, please contact
info-asia@lnest.jp

The current COVID situation has created unprecedented circumstances, however to continue with our vision of **“Advancing Science and Technology for Global Happiness”** we have decided to move Science Castle to an **Online format and cover SEA and JAPAN regions**. Science Castle in ASEAN will continue to build on the fundamentals created by Science Castle in Singapore. Through the event we hope to attract like minded students from SEA and Japan to connect and collaborate. Through an exchange of ideas and discussions, we hope to see new projects germinate and take shape.

Science Castle ASEAN is a great platform for junior high and high school students who are:

- 1** Passionate about research in science and technology and bridging research and society.
- 2** Interested in entrepreneurship & motivated to discover new knowledge to solve real-world issues.

Key Dates and Deadlines:

| | |
|-----------------------------|---|
| Project Submission Deadline | Sept 18 th , 2020 |
| Announcement of finalists | Sept 25 th , 2020 |
| Mentoring Sessions | Sept 28 th - Oct 30 th , 2020 |
| Conference & Workshops | Nov 4 th - 5 th , 2020 |
| Venue | Free Online |
| Time | 13:00 - 15:00 SGT |

The theme for this year is **“Taking action TODAY towards creating a brighter TOMORROW”**

We are calling for application in the following topics:

- 1** Environment/ Eco : such as tackling the issues of Plastic Waste.
- 2** Energy: such as renewable energy, energy storage, energy usage analysis.
- 3** Food: such as science behind food or technology related to food conservation.
- 4** Natural Resources: such as utilizing natural resources, science behind natural remedies etc.
- 5** Earth Science: such as science of soil etc.
- 6** Space Science: such as planetary Science or science & technology that can be used in space.

To find out more about SCIENCE CASTLE ASEAN, please visit : <http://global.lne.st/q8ym>

To participate and make an application, please register at: <http://global.lne.st/2yux>

To join as an audience, please register: <http://global.lne.st/6qc4>

2-day Brief Program Overview (time in SGT)

DAY 1 • NOVEMBER 4th 2020

| | |
|---|---|
| 13:00-13:20 | Opening. |
| 13:20-13:55 (Tsunagu Res Project) | Discussion on how international research collaboration between students can be achieved. |
| 14:00-14:55 (Presentation and Panel Discussions) | Student presentations & 2 parallel panel discussion on issues related to Circular Economy & Energy followed by closing. |

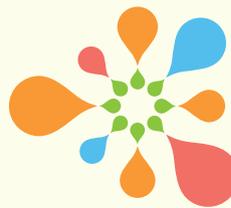
DAY 2 • NOVEMBER 5th 2020

| | |
|---|---|
| 12:50-13:00 | Programme begins. |
| 13:20-13:55 (Presentation and Panel Discussions) | Student presentations & 2 parallel panel discussion on issues related to Food & Natural Resources. |
| 14:00-14:55 (Presentation and Panel Discussions) | Student presentations & 2 parallel panel discussion on issues on Earth & Space science followed by closing. |

RESEARCH DEVELOPMENT

OPPORTUNITIES FOR CREATION OF NEW SEEDS OF INNOVATION





Hyper Interdisciplinary Conference

Overview of Hyper-Interdisciplinary Conference

In 2002, 18 years ago, Leave a Nest observed that the number of scientific publications increased in an exponential manner. However, the body of knowledge humans can grasp did not increase as so. To fill this gap, the concept Hyper-Interdisciplinary was created. Since then, Leave a Nest as Science Bridge Communicator has connected various specialists together.

Hyper-Interdisciplinary

In Hyper-Interdisciplinary Conference (HIC) 2020, different themes were explored in 3 different countries. Japan looked at "Renaissance of Knowledge Manufacturing", Singapore "Breaking Out of Convention – Impactful Science for Today's Deep Issues", and Malaysia "Bridging Traditional and Modern Healthcare". Various topics were explored, from Personalized and Artificial Food from the Perspective of Halal in Malaysia, to Skin Health for Southeast Asians in Singapore, Human and Space in Japan, and many more. The discussions were engaging, provided good dynamics and vision for the future research.

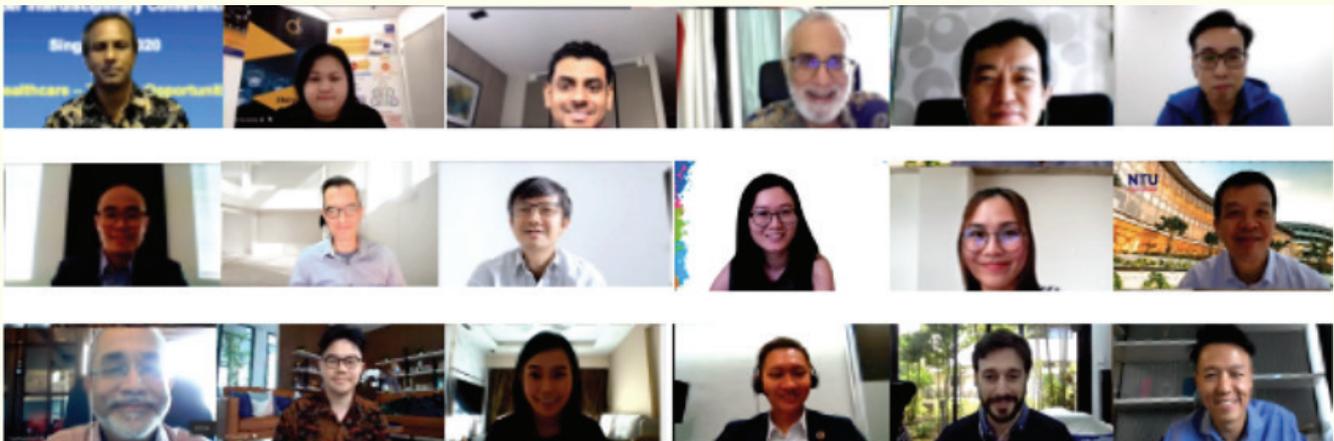
COVID-19 Impact on Hyper-Interdisciplinary Conference 2020.

This year, the biggest topic globally revolves around COVID-19. Certainly for Leave a Nest, we need to adapt to the current situation in order to continue to advance knowledge sharing. Although COVID-19 made face to face discussions impossible, it has evolved into a direction of using online to share knowledge and find the next new way to create knowledge. For example,

a Knowledge Seminar in Japan was born. Even though online programs limit discussion and possibly impact, the essence of HIC, knowledge manufacturing will not change. Additionally, online sessions allow people from all over the globe to join in. From the participation, we hope that more collaborations can be formed.

Forward to Hyper-Interdisciplinary Conference 2021

HIC in Japan 2021, similar to all past conferences, main mission is to generate new knowledge and research. Titled "Change, Adaptation and Evolution", Dr Hiroyuki Takahashi, founder of HIC in Leave a Nest noted that "the theme may change but the goal remains the same". The theme "Change, Adaptation and Evolution" is specially chosen considering that the world situations are changing rapidly and selection pressure is increasing. Therefore, remains are people and knowledge that can adapt to "change". "Adaptation" is used with the natural selection theory in mind and situation encourages the "evolution" of knowledge and technology. All in all, HIC Japan 2021 will feature young researcher with cutting edge technologies as well as global and domestic real tech ventures.



Hyper-Interdisciplinary Conference Singapore 2020

Recommendations from Past Partners and Participants of Hyper-Interdisciplinary Conference

“ HIC is a platform organized by Leave A Nest for academics, start-ups and MNCs to come together to discuss various global urban challenges that different countries face. Attending HIC as a panellist allows me to share knowledge, obtain new insights and generate business opportunities together which lead to mutually rewarding partnership. I hope everyone will take a chance to attend the HIC platform to explore various challenges faced by different countries and also contribute their expertise to make the world a better place.

”
**Ms. Monica Megawati, Research Officer,
Mitsui Chemicals Singapore R&D Centre Pte. Ltd**
*Opening Speaker in Developing Smart Cities in Southeast Asia,
Hyper Interdisciplinary Conference Singapore 2020*



“ HIC SG is an inspiring conference covering a wide range of innovation and emerging technologies across different sectors. At HIC, you will meet the innovators, the scientists, the investors and the tech executives at the heart of the next technology revolution.

”
**Mr. Elias Tan, Vice President,
Innovate360**
*Moderator in Nutraceutical Solution for Healthier Living,
Hyper Interdisciplinary Conference Singapore 2020.*

“ MEDGIC is honored to be a plenary showcase at HIC SG 2020. The conference is the right fit for a medical AI startup like us as the audiences, the theme and the panel were all directed towards the future of science, technology and humanity as a whole. We could all engage in meaningful scientific conversations virtually, which is especially important in the middle of a pandemic. The conference also serves as a platform for companies to reach out to partners who are actually here to listen, understand and collaborate towards a better future.

”
**Dr. Reid Lim, Founder,
MEDGIC**
*Keynote Speaker in Skin Health for Southeast Asians,
Hyper Interdisciplinary Conference Singapore 2020.*



“ I thank HIC for providing resourceful access to the innovation ecosystem for ASEAN and regional startups and researchers. Leave A Nest has been leading the way for deep tech ventures in priority sectors like healthcare, life sciences, nanotechnology and agriculture to name a few. This is a timely opportunity for innovators and entrepreneurs to reach out to global industry players as well as to potential investors, leading to a mutually rewarding partnership. I hope everyone will make good use of this unique HIC platform to explore possibilities especially in science, technology and digital innovation that will make a difference to the world.

”
**Dr. Hooshmand Palany, Chairman,
Healthcare Working Group ASEAN-Business Advisory Council**
Keynote Speaker Hyper Interdisciplinary Conference Malaysia 2020.

“ HIC is a good platform to discuss old folk's traditional practices of natural product medicines that could be used to compliment the western drugs or modern drugs. We believe HIC is the best platform to bring together researchers, stakeholders, startups and conglomerates to deliberate and gather knowledge on integration between traditional botanical medicine and modern drugs. We hope the ideas gathered from the event would lead to a solution of alternative medicine for the sustainability of the healthcare industry towards national wealth creation and social wellbeing.

”
**Assoc. Prof. Dr. Syarul Nataqain Binti Baharum, Deputy Director,
Institute of Systems Biology (INBIOSIS), Universiti Kebangsaan Malaysia**
Winner of Best Poster Award Hyper Interdisciplinary Conference Malaysia 2020.





Dr. Yuko Ueno,
NBVL Lab Manager

NEST-Bi 
VENTURE LAB

NEST-BIO VENTURE LAB: The Catalyst of ASEAN-JAPAN R&D Ecosystem

As a Knowledge-based manufacturing company that has a vision to “Advancing Science and Technology for Global Happiness”, Leave a Nest Group has established three research institutes and laboratories as platforms to bridge researchers, corporates and startups in solving issues around the world. Last year, Leave a Nest launched a new platform called Nest-Bio Venture Lab (NBVL) located at Malaysia-Japan International Institute of Technology (MJIIT), University of Technology Malaysia (UTM) campus, Kuala Lumpur, Malaysia. Dr. Yuko Ueno, the new appointed manager of NBVL shared her vision on how NBVL can become a catalyst to ASEAN-JAPAN R&D ecosystem.

Exchanging Knowledge and Expertise

All the labs under LVNS including NBVL are unique, because they connected the ecosystem of R&D in ASEAN and Japan. Through these labs, Malaysian researchers or startups could access bigger Japan’s R&D ecosystem and get support from Japanese big companies. Not only that, they could build core tech in the NBVL and then Leave a Nest could support them to go to the Japan market. Vice Versa, researchers and startups could also expand their research and business to ASEAN through the lab’s network that we have.

Platform To Nurture and Hire ASEAN Talents

To make science and tech to go into daily life, education is very important. Because you have to change people’s natural way of thinking. Through NBVL, talents from Malaysia and ASEAN can be nurtured through involvement in collaborative research projects with global researchers and companies. By doing this, they could learn the way of thinking and knowledge from



Nest-Bio Venture Lab

different countries to improve their skills. And besides the researchers, NBVL also conducts education projects. Corporations can also use this platform to identify the potential talents that might be suitable to expand their business globally.

Tele-Research Enablers

Previous days, It’s always necessary for researchers to work in a lab to conduct research. But when Covid-19 struck the world, a lot of labs were closed and a lot of research were postponed. For example, Metagen had a plan to conduct their research in Malaysia but unfortunately, they are not able to conduct the research by themselves due to Covid-19 and travel restrictions. Since they are partnering with NBVL, they have access to MJIIT’s expertise and work with the local talents to proceed

with their research without them coming to the country or bringing the sample to their home countries. This will also affect the issues of sample transportation in and out of the country.

Let’s Be Part of Nest-Bio Venture Lab

Last but not least, Dr. Yuko Ueno said, “Usual bio-lab is just a wet lab. But ours are different. We want to change our daily life by Science and Technology. Which means just doing research is not enough. We need to make the research to a industry, hence a Business”.. We believe NBVL will be a great catalyst in bridging R&D Ecosystem between ASEAN and Japan. Please contact us for further information.

Writer:
Abdul Hakim Sahidi
Editor:
Dr. Kihoko Tokue

Calling out to companies in the public or private sector interested in solving real world problems or innovation challenges by engaging and collaborating with academic researchers throughout Southeast Asia, Japan & the UK.

LNest Grant

What is the Leave a Nest Grant

Previous days, It's always necessary for researchers to work in a lab to conduct research. But when Covid-19 struck the world, a lot of labs were closed and a lot of research were postponed. For example, Metagen had a plan to conduct their research in Malaysia but unfortunately, they are not unable to conduct the research by themselves due to Covid-19 and travel restrictions. Since they are partnering with NBVL, they have access to MJIT's expertise and work with the local talents to proceed

The Need For Such A Grant

Academic researchers have difficulties in obtaining grants to support research activities that they would really like to pursue or what they are passionate about. Leave a Nest being a Science Bridge Communication company consisting of mainly researchers with Masters and PhD, understood the need to address this problem.

Since 2008, Leave a Nest Grant has supported close to 200 young researchers, with close to 1 million USD awarded mainly in Japan & the UK. Now Leave a Nest would like to expand the grant and related activities into Southeast Asia to support the research activity of young researchers in this region.

Benefits To Academic Researchers

- Opportunity to collaborate with corporates & private sectors on solving issues
- Grant award to conduct research
- No IP claims on research outcomes
- No restriction on how the grant award is used

Importing Frontier Knowledge and Technologies From Academia

Corporates & Private Sector



Opportunities for young researchers to bridge research with society

Benefits For The Companies Involved

- Gather new research seeds or ideas
- Access to research talents towards solving real issues or open innovation challenges
- Publicity for the company among researchers & universities
- Utilise the platform to recruit future talent

For more information on the grant and current grant themes please visit:
<https://grant.lne.st/>

Leave A Nest Research Report! “How Can Deep-Tech Startups Conduct Their Manufacturing Smoothly?”

Manufacturing is one of the key factors that many of the deep-tech startups face. In order for startups to raise funding or more over to sell their product, manufacturing is needed. But as white paper on manufacturing from Ministry of Economy Trade and Industry suggest, many of the startups find difficulties in this.

Leave a Nest works on research in a wide range of areas. As one of the research topics, we are trying to find out how startups from around the world can achieve their manufacturing smoothly. Within a couple of series we will cover the answers to this and in this article we will first try to take a look at the current situation and difficulties that startups are facing.

What Is The Manufacturing Process?

Whether the startup is making a bioreactor or electric vehicle or any other kinds of product or machine required for synthesis of its product, manufacturing is required. It is said that the manufacturing process can be divided into roughly 6 phases.

| | |
|---------|----------------------------|
| Phase 1 | Ideation. |
| Phase 2 | Check for IP. |
| Phase 3 | PoC. |
| Phase 4 | Principle prototype. |
| Phase 5 | Mass production prototype. |
| Phase 6 | Mass Production. |

Each of the phases require a different approach and whether startups can work on its own to achieve each phase differs. However in many of the cases they may start to require support from the manufacturing specialists from the PoC phase onwards. This is because nowadays many startups have access to 3D printers to create their mock-up. Creating a mockup from 3D printer might be easy, though production of working prototypes and mass production models is done in completely different ways. For example production and assembling of parts for just one lot and multiple lots is completely different as they can not expect to handbuild one by one at mass production phase. Also the way of process differ as well when using different material. Hence the planning and processing in phases beyond PoC requires deep manufacturing knowledge.

What Are The Current Situation And Difficulties That Startup Face?

So how are startups from the world working now on this and what kind of challenges might they be facing? In order to find this out Leave a Nest have been conducting a hearing towards startups from different countries (Malaysia, Singapore, Thailand, UK and Japan).

| | Advantages | Disadvantages |
|-------------------------------|--|---|
| Manufacturing in own country. | <ul style="list-style-type: none"> • No language barrier. • Close communication can be done • Fast production (in case of Singapore) | <ul style="list-style-type: none"> • Not enough types manufacturer to cater the startups needs. • The quality may not be in standard (In case of Thailand). • Small lot size are not accepted (In case of Thailand and Malaysia). • Fewer manufactured interested in the project with startups. |
| Manufacturing in outside | <ul style="list-style-type: none"> • High precision manufacturing possible (in case of Japan and Taiwan). • Small lot size is accepted (Japan) • Lower cost (In case of China and Taiwan) | <ul style="list-style-type: none"> • Language barrier. • Difficult for close communication. • Small lot size are not accepted (In case of China and Taiwan) • IP protection (In case of China). |

The hearing result from the startups shows that startups may consider their manufacturing in their own country or other parts of the world. Though the manufacturing ability in each of the countries varies and it shows that there are both advantages and disadvantages to this. The methods for how startups can conduct manufacturing smoothly definitely needs more research. Though what was evident here was that the majority of the startup faced some sort of difficulties in their manufacturing process and a player that may connect to the right manufacturing partner is definitely important for their success.

In the next series of the article we will see how some of the startups who succeeded in manufacturing have gone through each of phases and learn to pick up hints from there.

Writer:
Shohei Michael Maekawa
Editor:
Dr. Kihoko Tokue

HUMAN RESOURCE DEVELOPMENT

NEXT GENERATION OF YOUTH ENTREPRENEURS



Journey of A Passionate Young Technopreneur

Arsa Technology from Surabaya, Indonesia was founded by Mr. Achmad Hilmy Alfian Izzulhaq in 2017 when he was 17 years old. With the vision of "Everything is Connected", this company was established as an IoT hardware & solution provider. We interviewed Mr. Achmad Hilmy on his journey as a young technopreneur.



Mr. Achmad Hilmy,
Founder and CEO of
PT TRISAKA ARSA CARAKA

From Hobby To Business

Everything started from his childhood experience, young Achmad always loves everything that is related to robots. He was amazed by the advanced and intricate machinery in the movies and started his passion from there. Achmad learned and understood robotics and electronics seriously with the support from his during high school. He used the knowledge and skills during his free time in college to provide hardware and software development service. In the late 2019, one of his clients was interested in investing in Arsa Technology after they had successfully completed a project with the company. Thus, with the support from the client, he managed to incorporate and develop his first prototype for an industrial AIoT gateway.

Their first prototype, Arsa Ganesa for an industrial AIoT gateway

Overcome The Challenges As Technopreneur

When Mr. Achmad started Arsa Technology in 2017, there was no entrepreneur program or startup incubation in his university that could guide him in the business world. However, he took his own initiative to be involved in the startup community outside the university which helped him with the business and networking. Besides that, he always refers to the experts for product improvement. However, the biggest challenge he faced is in human resource. He found it difficult to employ people with the right skills. As a solution, he created an internal training program as a requirement for candidates who would like to join Arsa Technology. Today, Arsa Technology has six highly skilled employees that can deliver their best services to their clients.



Nurture the Passion of Young Generation

When asked about his opinion on how to nurture the young generation in Southeast Asia to become a Technopreneur, Mr. Achmad said that the very important thing to have is passion or purpose in something that you believe in. Based on his experience, his passion towards robotics drives him to take his own initiatives to become a successful technopreneur at a young age.

Even though Arsa Technology is only three years old, they continue to flourish and mature in the business world. One word of wisdom from Achmad to the young graduate is, "Just take the first step to start the business.". Technopreneur is another path that graduates can choose after their graduation. It also creates job opportunities for others. Therefore, let us support our young generation to find their own passion or purpose so we can create more technopreneurs that can change the world!

Writer:
Nur Ahmad Zaim Hussin
Editor:
Idarahayu Ayob

The Route To Support Youth Entrepreneurs

There are many undergraduate students in Malaysia who are already generating their own income stream while studying. Will this eventually affect their decision on career path after graduation? In this article, we interviewed Associate Professor Dr. Mass Hareeza binti Ali, Director for Centre of Entrepreneurial Development and Graduate Marketability (CEM), Universiti Putra Malaysia (UPM) to understand their roles in supporting youth entrepreneurs.

Nurturing Global Entrepreneurs

CEM was established in 2013 to promote and enhance entrepreneurial development and graduate marketability through strategic collaboration with entrepreneurs and industries. Dr. Mass Hareeza believes students' involvement in robust entrepreneurial activities can better prepare them for the job market upon graduation. Moreover, participation and wide exposure for students are important since it has a direct impact on social-economic stability and balance in the future. Therefore, the recognition of entrepreneurial culture among students by the Ministry of Higher Education Malaysia in 2019 has further inspired CEM to create a conducive entrepreneurial environment within the university to nurture students' interest.

Uniqueness in Agro Business Attracts Partners To Collaborate

UPM, as a research university focusing on agricultural sciences

and its related fields has produced many youth entrepreneurs. According to Dr. Mass Hareeza, although there are other fields of knowledge taught at UPM, agro business is proven to be the most popular choice among students who participated in entrepreneurship programs by CEM. In addition, with the arrival of IR4.0, CEM also started to see an upward trend in students' interest to combine agro business with new technology. Hence, based on the uniqueness of students' academic background and their innovative business ideas, CEM is able to get collaborative support from local government agencies and SMEs for a more structured program covering mentorship, funding, marketing, business management, and cross culture entrepreneurship.

Future Youth Entrepreneurs On The Rise

Sharing the results from UPM Tracer Study in 2017, 2018 and 2019, Dr. Mass Hareeza stated the percentage of those who ventured into entrepreneurial world after graduation is on the rise. For some graduates, they continue



Assoc. Prof. Dr. Mass Hareeza binti Ali,
Director for Centre of
Entrepreneurial Development and
Graduate Marketability
(CEM), UPM

to run family businesses to gain some experience before setting up their own business. In her opinion, students who would like to become entrepreneurs need to be well-informed by learning from other successful entrepreneurs. More importantly, students need to start building their network while they are at the university and equip themselves with digital skills which will be a great asset in the near future. "Once you come across idea to kick-off a business, don't delay. Make a plan and start," she concluded. Universities and employers have to recognize that self-made entrepreneurs are usually self-starters that have great stamina to endure challenges. This is a desirable quality look upon by employers no matter where the graduates choose to be later on.

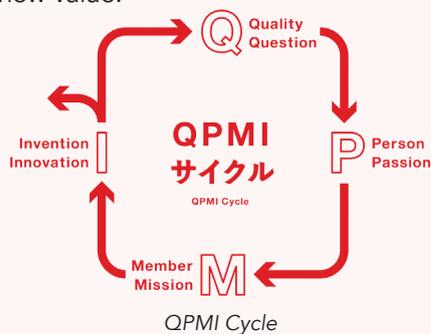
Writer:
Idarahayu Ayob
Editor:
Shohei Michael Maekawa

An Alternative Perspective To Preparing For The Future

We have come to an era where skill sets and expert knowledge alone is no longer the assurance for preparing ourselves for the future. Honing one's ability to identify questions and come up with an idea or plan to test them is crucial for us to welcome the future with confidence. Since issues we are trying to solve are not limited to one topic but likely to cover a range of topics which are interrelated, we are equally required to be able to gather appropriate members to deliver the solutions. Past experiences or successful cases are no longer applicable for one's success in bringing solutions for the long term and presently, we live in a time of uncertainty with overflowing information. Though social issues may be found in a local area, for these issues to be truly resolved, collaboration beyond borders and disciplines is required. To do so, talents who have the capability to bridge the gaps between various parties through clear communication is paramount.

How To Ready Ourselves For Uncertainty?

What humans are expected to face in time will become increasingly complicated and unpredictable. We will still need to learn the basic knowledge for us to be able to apply to new situations. In addition, we will need to be comfortable to work with situations where clear direction may not be available. This does not mean one will work mindlessly without direction. Therefore, one way is to apply scientific method of approach which is used by researchers who explore the frontier of knowledge. In Leave a Nest, this method of approach is a mechanism called the QPMI Cycle (Question, Passion, Mission and Innovation), incorporating it into our work as a mechanism to ignite innovation (see figure 1). This cycle allows autonomy and flexibility in innovation, ultimately creating new value.



Furthermore, having an entrepreneurial mindset when approaching unknown terrains can be useful. From observation, the trend we have found is that many countries have established startup ecosystems to ensure that research findings and new technologies get implemented into society to solve social issues. As startup ecosystems continue to thrive in various countries, there is also a need for talents in business building, where education institutions look into exposing students to entrepreneurship at primary, secondary and tertiary education. Such an approach and mindset can be useful to overcome current situations where things are changing faster than we can manage to plan it well before execution. We are expected to free ourselves from past success and continuously adapt new methods to solve deep issues which call for interdisciplinary collaboration and various trials and errors to explore for solutions.

Creating The Future For Global Happiness

With advancing technology and research outputs increasing exponentially in various fields, it is no longer useful just knowing the information or having access to the information. What is needed is for each individual to be able to set their own hypothesis and be able to take action to create the future. In order to create the future, one needs to be competent in communicating the ideas and vision to members who can utilise their expertise to bring solutions to the issues together as a team. This journey may not be a straight path but having such an adaptable mindset may be one way of surviving an uncertain future.



Entrepreneurship training to university students by Leave a Nest.

Contact us:

Leave a Nest group has a program to train entrepreneurial mindset which we already implemented in University, industry and governmental organizations in Asia regions. For details, please contact: info-asia@lne.st

Writer:
Elizabeth Wee
Editor:
Dr. Kihoko Tokue

Leave a Nest

Leave a Nest Members in Singapore and Malaysia



Dr. Kihoko Tokue
Managing Director



Shohei Michael Maekawa
Director



Nami Akinaga
Director CAO



Elizabeth Wee
Education Development
Division



Chan Hui Ling
Research and
Development Division



Dr. Ravikrishna Ramanujam
Frontier Development Division



Maiko Miyashita
Office Administrator

Advancing Science and Technology for Global Happiness



Abdul Hakim Sahidi
Managing Director



Idarahayu Ayob
Director



Fatin Ilyani Abdul Ghani
Education Development
Division



Nur Ahmad Zaim Hussin
Education Development
Division



Afiq Amani Anuar
Frontier Development
Division



Ummu Alyaa Hashim
Research Development
Division



Leave a Nest

About Leave a Nest Group

Advancing Science and Technology For Global Happiness

Leave a Nest was founded in Japan in December 2001 by 15 graduate students majoring in science, technology and engineering. It is the world's first startup company to offer Knowledge Manufacturing Process Technology as a service. The value of Leave a Nest is the ability to implement a global knowledge manufacturing strategy beyond nation, cultural, and religion borders. Join us in our mission to "Become the most effective knowledge manufacturer in the world".

Visit our website: <https://global.lne.st/about/>

OUR GLOBAL OFFICE

HEADQUARTERS IN TOKYO, JAPAN

Leave a Nest Co., Ltd.
Iidabashi, Miyuki Building. 5F, 1-4,
Shimomiyabicho, Shinjuku-ku,
Tokyo, 162-0822, Japan



HEADQUARTERS IN OSAKA, JAPAN

Leave a Nest Co., Ltd.
Osaka Bay Tower Office 6F,
1-2-1 Benten Minato-ku,
Osaka, 552-0007, Japan



SINGAPORE

Leave a Nest Singapore Pte. Ltd.
71 Ayer Rajah Crescent,
#06-11/12,
Singapore 139951



MALAYSIA

Leave a Nest Malaysia Sdn. Bhd.
Found8, KL Sentral 5,
East Wing, Level 3,
Jalan Stesen Sentral,
Kuala Lumpur Sentral,
50470 Kuala Lumpur



UNITED STATES of AMERICA

Leave a Nest America Inc.
101 California St, Suite 2710
San Francisco, CA 94111 USA



UNITED KINGDOM

Leave a Nest United Kingdom Ltd.
52 Gower St, Bloomsbury,
London, WC1E 6EB, UK

