Knowledge Manufacturing with Researchers, Startups, Corporations and Educators

Nest Garage

2024.09
VOL.22

Free Copy

Featured Article

Nurturing the Next Generation of STEM Leaders Across Southeast Asia

Following Dreams: Aligning Your Path with Your Passion and Interest

Lab to Launch: Researchers' Window for Societal Breakthrough

Democratizing Deep Tech in Southeast Asia

Nest Garage
2024.9.VOL.22

Leave a Nest

ED Education Development

HD Human Development

Chief Editors
Nur Ahmad Zaim Hussin
Ronezza Delos Santos (ED Section leader)
Dr. Arief Izzairy Zamani (HD Section leader)

Editors
Dr. Mohd Izwan Zainol
Dr. Muhamad Ezral Ghazali

Writers
Aisyah Abdul Hamid
Alecks Megxel Abordo
Alexander Gali
Bill Joseph Mercado
Chia Shu Sheng Ambrose
Edriel Lee
Hannah Mae Balisi
Mark Chiam
Muhammad Basril Muhammmad Asri
Dr. Nor Ilia Anisa Aris
Ronrick Arayata
Dr. Wan Nur Izzaty Ismail

Issuer
Leave a Nest Singapore Pte. Ltd.
(201016851H)
71 Ayer Rajah Crescent
#06-11/12
139951, Singapore

Designer in Malaysia
Impexa Solutions
Lot 35476-2 Dataran Austin
Jalan Austin 1, Wakaf Tembesu,
21300 Kuala Terengganu,
Terengganu

EDUCATION & HUMAN DEVELOPMENT

ANNOUNCEMENTS

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

Leave a Nest MALAYSIA
G-B, Block 2330, Century Square, Jalan Usahawan, Off Persiaran Multimedia, 63000 Cyberjaya, Selangor

Leave a Nest PHILIPPINES
Unit 2103, Orient Square Bldg., F. Ortigas Jr. Rd., Ortigas Center, Pasig City 1600

Nest Garage
2024.9.VOL.22

RESEARCH & FRONTIER DEVELOPMENT

ON THE COVER

Mr. Riichiro Osawa

The Managing Director and CEO of Ajinomoto (Malaysia) Berhad shares on pages 8–9 how the company's vision aligns with Leave a Nest to nurture the next generation of STEM leaders through the inaugural Science Castle Grant in Malaysia.

ANNOUNCEMENTS

Leave a Nest UNITED KINGDOM
IDEALondon, 69 Wilson St, London EC2A 2BB, UK

Leave a Nest AMERICA
3350 Scott Blvd. #5502, Santa Clara, CA 95054

Leave a Nest
Iidabasimiyuki Bld. (Reception : 4F floor) , 1-4, Shimomiyabicho, Shinjuku-ku, Tokyo, 162-0822, Japan

Leave a Nest

RD Research Development

FD Frontier Development

Designer in Philippines
Mulave Studios
2nd Floor, AAMC Barbo Bldg, Jalandoni St.
Jaro Iloilo City, Philippines

Printing Company
KHL Printing Co Pte. Ltd.
57 Loyang Drive, Singapore 508968

Accea Malaysia
Mezzanine Floor. Bangunan Amoda,
22 Jalan Imbi, 55100 Kuala Lumpur

VJ Graphics Arts Inc/iPublish
115 Mother Ignacia Avenue Quezon City
1103 Metro Manila Philippines

SOUTHEAST ASIA ECOSYSTEM PARTNERS

SINGAPORE/THAILAND

CHULA ENGINEERING
Innovation toward Sustainability

INNOVATE 360

KU KASETSART UNIVERSITY

KNOWLEDGE XCHANGE

POWER OF MAHIDOL INNOVATION

สำนักงานนวัตกรรมแห่งชาติ

NSTDA

VISUP
VISUP COMPANY LIMITED

YUSARN AUDREY

MALAYSIA/INDONESIA

CYBERVIEW

MRANTI
Malaysian Research Accelerator for Technology & Innovation

Kementerian Perindustrian
REPUBLIK INDONESIA

TERAJU
PENERAJU BUMIPUTERA

MPOB

MMU
MULTIMEDIA UNIVERSITY

TAYLOR'S UNIVERSITY
Wisdom · Integrity · Excellence

UNIVERSITI KEBANGSAAN MALAYSIA
The National University of Malaysia

NARATIF BAHARU UKM
UNIVERSITI WATAN KITA

UPM
UNIVERSITI PUTRA MALAYSIA

USM
UNIVERSITI SAINS MALAYSIA

APEX™

UTM
UNIVERSITI TEKNOLOGI MALAYSIA

BINUS UNIVERSITY

INSTITUT TEKNOLOGI BANDUNG
1920

LMFEB
Pusat Studi Manajemen dan Bisnis
FEB UNPAD

SEKOLAH Tinta
"Eksplorasi & Realisasi Ide"
RENDAH & MENENGAH

PHILIPPINES/VIETNAM

BSSC

NDC
NATIONAL DEVELOPMENT COMPANY
Enabling the future.

ATENEO DE MANILA UNIVERSITY

ATENEO INTELLECTUAL PROPERTY OFFICE

BULACAN STATE UNIVERSITY
1904
PHILIPPINES

CDO bites

KWADRA TBI
ISATU | DOST - PCIEERD

MAPÚA UNIVERSITY

ĐẠI HỌC TÔN ĐỨC THẮNG
TON DUC THANG UNIVERSITY

HONRADO AND ROYAL UNIVERSITY OF SANTO TOMAS
1611

Nurturing the Next Generation of STEM Leaders Across Southeast Asia

SCIENCE CASTLE
Osaka 2012

2014

2016

2018

2020

SCIENCE CASTLE ASIA 2023
Cyberjaya 2023

SCIENCE CASTLE ASIA 2024
19-20 OCTOBER 2024
Tun Chancellor Hall, Multimedia University (MMU) Cyberjaya, Malaysia

Science Castle Grant | Eat Well, Live Well. Ajinomoto
First Science Castle Grant in Malaysia

Leave a Nest's educational initiatives in Malaysia, Singapore, and the Philippines have expanded over the past few years. From a series of science workshops and the initial establishment of Science Castle in Osaka in 2012, the Group worked on regional Science Castles until Leave a Nest Malaysia's introduction of Science Castle Asia in 2023, bridging together young innovative minds from Southeast Asian countries and Japan. Leave a Nest Philippines also introduced many exciting educational initiatives tailored to the local landscape, such as Ki Ni Naru and Pugad Agham.

Recently, in collaboration with Ajinomoto (Malaysia) Berhad, Leave a Nest Malaysia launched the first Science Castle Grant in Malaysia, and we will dive deeper into it in this section. The first few pages will thoroughly discuss the history of the Science Castle Grant, which first started in Japan, and the collaborative efforts between the two parties to support young researchers in the country. We also interviewed one of this year's awardees to gain more insights from them. Let's get excited to see the opportunities available to nurture the next generation STEM leaders in Southeast Asia!

NEST WORKSHOP

Science Castle Grant:
Dawn at the Nest for Research

By Ronezza Delos Santos, B.Sc

As Leave a Nest continues to encourage STEM Exploration for the youth since its foundation, it has developed several programs such as the Science Castle Grant – a research grant specifically targeted for junior and senior high school students who want to conduct their own research based on their own passion, curiosity and interest. With a total of 32 implementations after almost a decade in Japan and its recent beginning in Malaysia, let's take this opportunity to learn more about its history and future as we look into the discussion of some of its originators: Ms. Satoko Tachibana of Japan and Dr. Ezral Ghazali of Malaysia.

Inception of a Research Grant for High School Students

Ms. Satoko Tachibana
Leave a Nest Co., Ltd.

Satoko: The idea of the Science Castle Grant in Japan actually traces back to the 2011 Great East Japan earthquake and tsunami. After the disaster, we really wanted to do something for the region, so we spent hours traveling there and conducting workshops. It was challenging as it was our first time doing something like it far from Tokyo, but there, I met numerous students who were passionate about doing research. This made us want to support them, but it is quite difficult to travel all the way there so frequently. We then thought giving such students a grant would encourage them to do research even when we're not physically there – that was how Leave a Nest started Science Castle in Japan in 2016, initially without partners.

Ezral: That's a very interesting story! In the case of Malaysia, I saw that it is needed because those in public schools have limited budgets and facilities to do the research, and it actually limits them to exploring science. With the grant, they may be able to utilize it to run their research. However, the actual implementation didn't come until we met Mr. Osawa, Managing Director and CEO of Ajinomoto (Malaysia) Berhad (AMB). He joined the first Science Castle in Asia in 2023 and was surprised especially with the food-related research done by the students. This inspired him to support the research journey of high school students. After some more discussions with the AMB team, we were able to create the Science Castle Grant 2024 Ajinomoto (Malaysia) Berhad Award – the first Science Castle Grant in Malaysia.

Dr. Ezral Ghazali
Leave a Nest Malaysia Sdn. Bhd.

Origins of Science Castle Grant: Ms. Satoko presenting for the workshop at Tohoku region (left);
Mr. Osawa getting inspired from high school researchers' presentations in Science Castle Asia 2023 with Leave a Nest Founder Dr. Maru (right)

Helping Students Learn How to Fly in Research

Satoko: Like Malaysia, the lack of research funding is also an issue for high school research in Japan, and we are also trying to address it with the Science Castle Grant. Of course, aside from the money, we're also trying to support these students' research in other ways. We conduct research mentoring and coaching with some of our partners' R&D experts and technicians, allowing the students to learn outside of their usual curriculum in the classroom. This initiative also gives students the opportunity to do what they personally want to do and pursue the things they are curious about.

Science Castle Grant 2024 Ajinomoto (Malaysia) Berhad Awardees during their factory visit at Ajinomoto

Ezral: That's true! Students are full of curiosity and we don't want them to be limited when they want to explore things. I actually found a lot of interesting research when we were reviewing the applications for the Science Castle Grant, including something that I personally would want to use if developed – enzyme spray for extending the shelf life of cooked rice. In addition to coaching and mentoring for the grant awardees, we also conducted workshops on the fundamentals of research and factory visits to help train them and widen their horizons through their interactions and mutual learning with AMB's members.

Ready for Take-off to Change the World

Satoko: That research sounds nice! As for me, one of the most memorable research was on tobihaze (mudskippers), studying whether they roll more to the right or to the left. It was a very simple research, but it showed how passionate and curious the students were, especially since it was actually their first time experiencing research. I've been in contact with them since then, and it makes me proud to see them pursue their Masters Degree in Marine Science, exploring the field to contribute to the world. As they continue to explore, they can also be the ones to mentor the next generation of researchers. We saw such growth in Japan, and I'm excited to have more of these kinds of stories not just in Japan but also in Malaysia and Southeast Asia as well!

Science Castle Grant Awardee presentation at Science Castle Kanto 2023

Ezral: What an inspiring story! I hope to be able to see those in Malaysia as well. Like you, I envision our Science Castle Grant Alumni to be ready to be the next generation of STEM leaders. They can even be the next mentors for the future Science Castle Grant awardees or younger researchers. This creates a sustainable cycle of exploration, discovery and innovation that can benefit the world and its people. And so, my message for the current and future Science Castle Grant Awardees is:

> "Do your best in research. Take as much knowledge as possible from the mentors, and utilize the Leave a Nest platform to share your passion in science and be the next generation of STEM leaders."

From Local Ingredients to Global Impact:
Science Castle Grant 2024 Ajinomoto (Malaysia) Berhad Story

By Muhammad Basril Muhammad Asri, MSc.

Ajinomoto Malaysia Berhad (AMB) partners with Leave a Nest Malaysia to launch the Science Castle Grant in 2024, marking its first expansion beyond Japan. This innovative program nurtures young scientific talent by providing financial support and mentorship to high school students engaged in promising research projects. Aligned with AMB's values, the initiative guides participants from March to October, culminating in presentations at the Science Castle Asia 2024 conference. This article explores AMB's motivation and goals through an interview with Mr. Riichiro Osawa, Managing Director and CEO. We examine how the program empowers students to address global nutritional and sustainability challenges using local ingredients, highlighting AMB's commitment to fostering sustainable food innovation in Malaysia.

Nourishing Malaysia Through Science and Innovation

Since its 1961 Malaysian debut, AMB has undergone significant transformation. Initially known for trading Monosodium glutamate (MSG) seasoning, AMB established local production in 1965 and has since diversified extensively. While still recognized for seasoning, AMB now offers a comprehensive range of food solutions, including Seri Aji, localized seasonings, and ready-meals like frozen gyoza. The company's innovative approach, grounded in Dr. Kikunae Ikeda's 1908 umami discovery, blends scientific methodology with culinary curiosity. This enduring commitment to enhancing nutrition through improved taste continues to fuel AMB's product development and market expansion strategies.

The company's core value, "Ajinomoto Group Creating Shared Value" (ASV), evolved from "Creating Shared Value" (CSV), emphasizing the synergy between business growth and societal advancement. This philosophy, rooted in Dr. Ikeda's vision, aims to scientifically improve nutrition and lifestyle through enhanced taste, enabling balanced diets that promote public health. For over six decades, AMB has tailored products to Malaysian preferences, consistently improving local quality of life. Initiatives like the Science Castle Grant underscore AMB's ongoing dedication to community wellbeing and nutritional advancement.

Planting the Seeds of Progress

Mr. Osawa's motivation for AMB's collaboration in the Science Castle Grant program stems from his experience at last year's Science Castle in Asia event. He reflected, "I want to reignite that spark within myself, my company and staff." Thus, through Science Castle Grant, he envisions AMB staff rediscovering their enthusiasm for creating life-enhancing technologies. By rediscovering their passion, he believes it will strengthen the company's commitment to societal enrichment.

As a food manufacturer, AMB champions scientific foundations as crucial for global innovation. Through Science Castle Grant, AMB addresses real-world needs like sustainable food production and waste reduction. Mr. Osawa values diverse perspectives, especially from students, in driving breakthroughs. This collaboration fosters intergenerational learning, accelerating societal advancement through shared scientific potential. It builds trust between young innovators and established researchers. Ultimately, Mr. Osawa envisions this program nurturing young scientific talent and elevating the quality of life for Malaysians and beyond, as individual potential benefits cascade across communities.

Local Flavors, Global Impact

Building on this vision of nurturing scientific talent, Mr. Osawa identifies Malaysia's rising obesity rates as a critical challenge requiring innovative solutions. This health concern, stemming from changing diets and increased processed food consumption, underscores the crucial role young scientists can play in addressing public health issues. He shared an example from Ajinomoto Japan's "Love Vege" campaign, where it manages to develop nutritious and appealing food options. Mr. Osawa believes Science Castle Grant projects can uncover creative wellness solutions by merging fresh perspectives with industry expertise.

Facilitating this merger of fresh perspectives and industry expertise, AMB extends its commitment beyond funding. The company provides comprehensive support through the Science Castle program, including R&D mentorship and methodological guidance. Mr. Osawa envisions mutual benefits from this collaboration, with young researchers contributing fresh, tech-savvy perspectives while experienced AMB staff gain new insights and leadership skills. This intergenerational synergy, driven by scientific curiosity, aims to elevate Malaysia's food ecosystem and enrich AMB's research culture, reflecting the company's dedication to advancing food science and fostering innovation.

Recipe for Sustainable Food Science Progress

Building on this intergenerational synergy, Mr. Osawa encourages students to embrace their role in shaping Malaysia's food future. He emphasizes that their fresh perspectives and innovative ideas are crucial in addressing real-world challenges. Mr. Osawa urges students to maintain their curiosity and enthusiasm, as these qualities can inspire seasoned researchers and drive meaningful advancements in food science. By actively participating in Science Castle, students not only contribute to AMB's research culture but also play a vital part in elevating Malaysia's entire food ecosystem, embodying the program's mission of fostering innovation for societal benefit.

A Trailblazer's Story:
SMK Convent Jalan Peel's Journey to Science Castle Grant 2024 Ajinomoto (Malaysia) Berhad Award

By Bill Joseph Mercado, B.Sc

Embarking on a Unique Journey

One of the finalist teams chosen to be part of the Science Castle Grant 2024 Ajinomoto (Malaysia) Berhad Award is from SMK Convent Jalan Peel, an all-girls school that is heralded as a model STEM school in Kuala Lumpur, Malaysia. The research team is comprised of the following students:

- Siti Nuraisyah Alia Amanda binti Mohammad Said Leong - Research Manager.
- Nurqistina Alysha binti Mohd Zaki - Design Manager.
- Qisya Arianna binti Ahmad Nazmi - Finance Manager.
- Umi Hazirah binti Ab Rahman - Marketing Manager.
- Aira Reana binti Mohd Azmir - Marketing Manager.

Together with their Mentor, Mrs. Norhidayu binti Mohammad, they are pioneering a research Project entitled: ***"Enhancing Rice Preservation and Quality Through Saccharified Enzymes Activity From Sugarcane Bagasse and Rice Husk: An Innovative Approach"***. By utilizing enzymes from sugarcane bagasse, the fibrous byproduct often discarded after sugar extraction, it aims to make cooked rice fresh longer. This innovation addresses both food waste and the financial strain of increasing rice prices, helping families save money while maintaining this staple in their diet.

Their journey to the first Science Castle Grant in Malaysia has been anything but easy. With over 103 applicants, the team was under pressure to be able to submit an idea which was viable while also being something interesting, unique, and impactful. From ideas such as, creating vitamins from apple skin, a powder to tenderize meat from papaya leaves, flavorings from vegetable peels, until ending up to their current research. Their ideas were always grounded in environmental sustainability solutions in utilizing something that was considered "waste" to a product that can be of new usage or to prevent the waste of another.

This innovative idea made them stand out from the bunch and became one of the trailblazers for the first Science Castle Grant in Southeast Asia.

A Long but Fulfilling Way Ahead

While the students are still undergoing the program, they have already shown unprecedented growth as young researchers. One of the most valuable outcomes of this journey has been the personal and academic development experienced by the students. The program has provided them with an opportunity to engage with mentors and experts from various scientific fields, granting them insights and feedback that broadened their perspectives and deepened their understanding of the research process. This program was able to forge and even change the mindsets of the students. To quote one of the participants:

"Before we started, research was all about finding the right answer and sticking to a plan. We imagined it would be a straightforward path from idea to results. But then diving into the project, we quickly learned that research is much more complicated and it is more about exploration and adaptability. One big change in our perspective is that we realized how much problem solving and creative thinking are involved. We had to be really flexible and think outside of the box, especially when things didn't go as planned. So I think overall, this research has taught us to be more open-minded, patient, and persistent." - Alia Amanda

Even their mentor was able to gain knowledge and have shifts in her paradigm in teaching research, as well as students being sources of learning. To quote Mrs. Norhidayu:

"....Most of the time I just believe and trust the student to do their research on their own. But when I come back to them and I ask what is the progress, there are errors, mistakes, and end up with a failure... but for this research, I believe my students, sometimes they are more advanced than me... I have something that I have to learn from them. It gives a different perspective for me."

A Journey Worth Sharing

When asked, what was their advice to other aspiring young researchers, this was a participant's reply:

"My advice to other young researchers is to never, ever be afraid of the outcome, whether it is successful or not. As young researchers ourselves, we have experienced different outcomes. And for us, it's definitely a pressure when it does not go our way, since everyone expects us to succeed on the first attempt. But that doesn't stop us from trying and searching for a wider variety of methodologies. We believe that every outcome is a result that should be valued as well. As our teacher said, every result from your experiment is still a result. So as a young researcher, never, ever give up! Never, ever be afraid... when it doesn't go your way and always look out for more ideas" – Qisya Arianna

This experience has brought the team closer, fortifying their bond through shared challenges and triumphs. The success of SMK Convent Jalan Peel with the Science Castle Grant 2024 Ajinomoto (Malaysia) Berhad Award is a testament to the potential of young minds when nurtured in an environment that values innovation, critical thinking, and perseverance. With programs like these, we are able to create nests for young researchers to thrive, as well as create a supportive environment along with the teachers. A holistic approach that created wherein positive changes are impacting the society as a whole.

In the end, the trailblazers from SMK Convent Jalan Peel are not just participants; they are pioneers toward a more sustainable future, driven by the youth's passion and curiosity. Their journey underscores the critical role of education, mentorship, and early engagement in research to equip the youth with the skills and motivation needed to tackle the pressing issues of our time.

We hope that their story is just one of the many more amazing stories created from initiatives such as this.

Innovating Education for Global Happiness:
Discover Leave a Nest's Initiatives

Education is not just a pathway to professional growth, but also a catalyst for personal development and societal progress. From infancy, we embark on a lifelong pursuit of acquiring knowledge and skills that shape our essence. At Leave a Nest, we passionately believe in the power of education to drive genuine change.

Our projects are designed to inspire, educate, and empower individuals from diverse backgrounds across all stages of their educational journey. From revolutionary research conferences to innovative workshops, each initiative by our Education Development Division is crafted to meet the unique needs of countries and communities, fostering inclusivity and making strides toward 'global happiness.' Join us as we continue to redefine the future through education!

Science Castle in Asia
19–20 October 2024
Join Asia's premier research conference, where junior and senior high school students will engage in interactive workshops, present groundbreaking research, and many more over two enriching days!

Ki Ni Naru Project
4 October 2024
Ignite curiosity in junior high school students with this 4-month program that teaches scientific research fundamentals through a curiosity-driven approach!

Teacher Tour to Japan
December 2024
Explore Japan's cutting-edge education practices, gain inspiration, and return with innovative ideas to elevate teaching and foster classroom growth!

Thailand Edutourism
August & October 2024
Dive into hands-on science workshops and exciting tours in Cyberjaya, featuring visits to Cyberview and Multimedia University for Thai high school students!

Science Castle in the Philippines
January 2025
Empower Filipino students and teachers with a culture of research and innovation, shaping a brighter future for the Philippine education system!

Great Teacher Summit
19 October 2024
Advance teaching excellence by equipping educators with essential mindsets and knowledge, and collaborating with a dynamic network of partners across Asia!

Yugto
October 2025
Guide senior high school students in making informed decisions as they transition to university life with Yugto, steering them toward success in the next stage of their academic journey!

For additional information, please email us at **info-asia@lne.st.** Kindly look for Dr. Ezral Ghazali, Mr. Alexander Gali, and Mr. Mark Chiam to learn more about our educational projects in Malaysia, Philippines, and Singapore, respectively.

Ki Ni Naru 2024:
Nurturing Future Scientists

"Ki ni naru" (気になる) is a Japanese word that means "curious" or "want to know." The Ki_ni_naru Project is Leave a Nest Philippines' new initiative to train students with no research experience in the basics of scientific research. This intensive program focuses on curiosity-driven projects, allowing students to rely on their powers of observation and easy-to-acquire materials, without the need for advanced equipment or extensive scientific knowledge.

The Ki Ni Naru 2024 program began on January 20, with the final presentation on March 23 at QBO Innovation, attracting enthusiastic students and key school figures. The program featured welcoming remarks, gratitude to participating schools and mentors, and insights from the advisory board. Judges, including Ms. Arla Fontamillas - Training Consultant from Asian School of Development and Cross-Cultural Studies, Mr. Peter Jeffrey Maloles, as Resource Person of Science Education Institute - Department of Science and Technology, and Mr. Alecks Megxel Abordo from Leave a Nest Philippines, Inc., emphasized their role in assessing and advising the final presentation of the participating students. The program concluded with an Awarding Ceremony: Oath of a Young Researcher, underscoring the students' dedication to ethical research.

Highlights of Research, Awards, and Insights

Pagalanggang National High School presented research on the "Effect of Material Type on Air Resistance Using Mini Parachutes." This project earned the award for "Best in Curiosity," recognizing the team's keen interest in how air interacts with different objects, highlighting their fascination with everyday phenomena.

D Carmelite School of Taguig Inc. explored "Preserving Cooked Rice Using Natural Preservatives Without Refrigeration." Their clear and accessible presentation won them the "Best in Presentation" award, showcasing their ability to effectively communicate their scientific findings to a general audience.

Orani National High School – Main developed the "HydroBot – Automated Water Fetcher: Enhancing Access to Clean Water." They received the "Best in Discussion" award for their flexible and effective brainstorming, demonstrating how their research could adapt to various needs while maintaining a solid research foundation.

Spark Academy of Global City Inc. investigated "The Eyesight With and Without Glasses." Their project, which required significant team effort to understand vision differences, earned them the "Best in Teamwork" award. This project underscored the importance of collaboration in making new discoveries and deepening understanding.

Mariveles National High School – Poblacion introduced "PATAKBOT (PAtubig, Tanim, Alaga, Kilatis, roBOT): An Advanced Multi-purpose Robot Designed to Help Agriculture and Reduce the Work of Farmers." They were awarded "Best in Technical Innovation" for addressing significant agricultural challenges with modern technology, presenting innovative solutions that could benefit future generations of farmers.

Mariveles National High School – Cabcaben researched "Horsetail (Equisetum arvense) as Metal Polish." Their meticulous project planning and execution earned them the "Best in Research Design" award, showcasing their accuracy and precision in research methodology.

Call for Participants

The Ki Ni Naru 2024 program successfully highlighted the innovative and diverse research efforts of students from various schools in the Philippines, emphasizing curiosity, effective communication, teamwork, technical innovation, and meticulous research design. **This time we are now expanding to more grade 7 and 8 students with the theme "Igniting Curiosity: Exploring the World of Wonders through Observation and Interest." Kicking off on October 4, 2024, and culminating in January 18, 2025,** this 4 months program offers weekly mentoring sessions where students will learn research methodology, formulate hypotheses, and analyze data through engaging, hands-on experiences. To learn and join this program you can also contact: Ms. Jewel Santos **(jewel@lne.st)** or Mr. Bill Mercado **(bill_m@lne.st)**

'Guitar-X-periment – the Science of Music

Have you ever wondered how a simple strum of a guitar string can produce such a beautiful melody? On May 4th, 2024, Leave a Nest Singapore ignited young musicians' curiosity with their "Guitar-X-periment – the Science of Music" workshop. This unique workshop aimed to unravel the scientific mystery behind the guitar, transforming aspiring musicians into budding scientists for a day.

The workshop delved into the heart of the guitar, exploring the intricate relationship between strings, vibrations, and resonance. Participants embarked on an auditive journey as they experimented with different string tensions and lengths with everyday household materials. Discovering how these factors influence pitch and tone. The workshop also highlighted the role of resonance in amplifying sound, transforming subtle vibrations into rich, melodic expressions.

Hands-on activities brought science to life. Young musicians had the opportunity to build their own mini-guitars, gaining a tangible understanding of instrument construction. They also explored the wave patterns of sound using visual demonstrations, making the invisible audible. The interactive nature of the workshop encouraged a sense of curiosity and wonder, inspiring participants to view their guitars in a whole new light. Participants were left with a powerful message to conclude the event: "exploration leads to creation". This inspiring takeaway encouraged students to channel their newfound scientific insight into creative expression, empowering them to pursue their curiosity with confidence and imagination.

As the strings of the guitars continue to resonate in the minds of the participants, Leave a Nest invites you to join them on their mission to explore the world through the lens of science. Stay tuned for more exciting workshops and initiatives that bridge the gap between disciplines and ignite a passion for learning.

SCIENCE WORKSHOP CATALOGUE

Leave a Nest ignites scientific curiosity and creativity through engaging workshops. From robotics to environmental science, these programs offer a diverse range of topics. Participants get to dive deep with hands-on activities, collaborate with science experts, and develop practical skills. It's all about sparking a love for science, nurturing critical thinking, and equipping young minds to solve real-world problems.

SINGAPORE

Forensic Science workshop, Ages 7-9 years old

Students became mini-chemists in a workshop that explored separation techniques and basic reactions. They learned chromatography, separating colours in black ink using water and alcohol, and then put on their lab coats again to test how everyday powders react to water and vinegar. This hands-on experience gave them a taste of both the analytical and experimental sides of chemistry.

Freshwater Crab Science workshop, Ages 7-9 years old

Leave a Nest's freshwater crab workshop explored the biology and adaptations of these unique crustaceans, allowing participants to learn through live specimens. The workshop delved into how these crabs thrive in both water and land environments.

MALAYSIA

Astronomy Science workshop, Ages 7-12 years old

The astronomy workshop launched the kids on a thrilling journey through the cosmos. They learned about the building blocks of our universe, from fiery stars to swirling galaxies. Through hands-on activities, they explored the phases of the moon and crafted their own constellations. The workshop sparked their curiosity about the planets in our solar system, their unique features, and the possibility of life beyond Earth.

Drone Science workshop, Ages 7-14 years old

The drone workshop took participants on a multi-layered journey into the world of drones. They delved into the technology, learning about different drone types, parts, and how they work. The real thrill came with a visit to Alphaswift's office, where they saw drones in action as well as piloting them.

PHILIPPINES

GaraStem Robotics Science workshop, Ages 10-11 years old

Students in a robotics workshop built affordable G-Robots, learned to control them with an app, and then navigated the robots through mazes. This hands-on experience taught them about robot basics and problem-solving.

Aerokids Science workshop, Ages 7-9 years old

The "AeroKids" workshop used wind as a springboard to teach young minds about physics. They learned how air and wind work, and how these forces affect everything, big or small. This knowledge lays the groundwork for future scientific and technological endeavours.

FOR CORPORATES:
We can tailor our exciting science workshops to not only spark scientific curiosity, but also align with your company's values and goals.

HOW IT WORKS

1. Align with Your Vision: We collaborate to understand your company's focus and goals.
2. Themed Workshops: We'll craft a science workshop that aligns with your brand.
3. Hands-on Learning: Kids will be actively involved through experiments, problem-solving, and building.
4. Interactive Learning: Showcase your expertise through guest speakers, demos, or challenges.

Contact ***mark@lne.st (Singapore) ezral@lne.st (Malaysia) alex@lne.st (Philippines)*** to learn more about Science Workshops

Cosmic Wonders:
How Auroras Reveal the Fascinations of Space Science

By Wan Nur Izzaty Ismail, PhD

Imagine gazing up at a night sky suddenly alive with colourful, dancing lights - an awe-inspiring aurora display caused by a solar storm crashing into Earth's magnetic field. Swirling greens and purples illuminate the heavens, sparking curiosity about the cosmic forces creating such beauty. What causes these lights? How do events on the Sun influence what's on Earth? These questions lead us into the study of space science, a field that has captivated human imagination for centuries.

The Ancient Time

The science behind these dazzling displays has fascinated observers for ages. Ancient peoples once feared angry gods conjured the otherworldly auroras. In recent times, study of space has gained significant attention, space research helps unveil the true story. One that intricately links active Suns, magnetic Earths and spectral streaks painting our atmosphere. Among these events, solar storms are one of the interesting events that sparked the interest and underscored the importance of studying space physics.

Our Star, you see, is no steady campfire. It's a dynamic, churning cauldron of plasma and fire. Sometimes the solar surface dramatically erupts, blasting charged particles out on fierce galactic winds. This gusty space weather rushes at Earth. As solar storm particles flow toward Earth, they encounter an invisible shield surrounding our planet — the magnetosphere. Earth's magnetic field deflects most particles. But some sneak through cracks at the poles, diving into upper air molecules leading to spectacular displays of auroras.

Credit: US Department of Commerce - National Oceanic and Atmospheric Administration

Recent Aurora Event

One of the recent aurora events was around May 8, 2024 where a billion-ton coronal mass ejection (CME) erupted from the Sun, releasing charged particles towards Earth. When these solar storm particles interacted with Earth's magnetosphere and atmosphere, they caused visible colourful auroral "light shows" at the poles along with magnetic fluctuations disrupting infrastructure like power grids. On the other hand, satellites also faced potential damage to their solar panels and electronics.

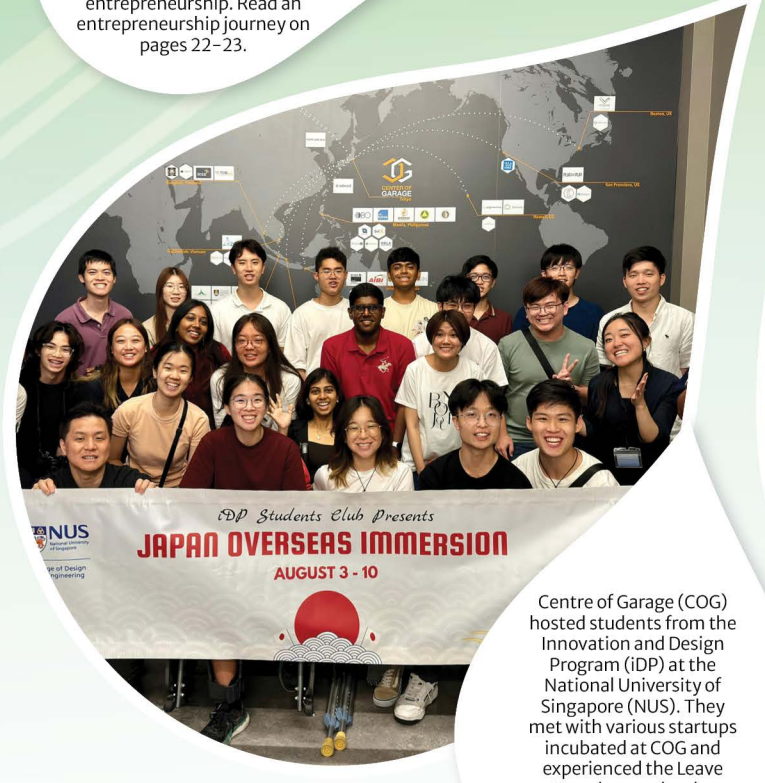
Yes, auroras are beautiful but auroras can happen due to the solar storms. Understanding solar storms is crucial as they can disrupt satellite communications, navigation systems, and power grids, making space weather prediction vital for mitigating these effects. For astronauts, these storms pose significant radiation hazards, necessitating research for safety measures. Study of space remains important, for predicting and preparing for solar ties between planets and stars expands understanding across celestial spheres.

The Important of Space Study and Moving Forward

As we continue to advance in our exploration and understanding of space, it is essential to invest in scientific research and education. By doing so, we can better predict and prepare for space weather events and protect our technological infrastructure. The wonder of the world lies not just in what we can see, but in what we can discover through the pursuit of knowledge. Revelling in the beauty of auroras allows us to visualise this complex relationship between Earth and astronomical phenomena, underscoring that we live an interconnected celestial-terrestrial existence. Our planet dances with the stars

HUMAN DEVELOPMENT

Project SET: Scholars' Entrepreneurship Training. Students with a passion for learning outside their curriculum, from various Philippines Universities, gathered to learn about entrepreneurship. Read an entrepreneurship journey on pages 22–23.



Centre of Garage (COG) hosted students from the Innovation and Design Program (iDP) at the National University of Singapore (NUS). They met with various startups incubated at COG and experienced the Leave a Nest deep technology ecosystem as part of their journey to appreciate/ learn about innovation & design in Japan.

Leave a Nest Malaysia held the inaugural Women in STEM Empowerment (WiSE), aim at empowering women in the field of Science, Technology, Engineering and Mathematics. Read more about WiSE on page 24, 25.

Following Dreams:

Aligning Your Path with Your Passion and Interest

Entering higher education is the beginning of the path that youth embark on that will prepare them for the discovery of their future career and professions. Passion and interest act as an anchor and compass for self-discovery and imagining a future that one wants to create for themselves. Leave a Nest encourages the discovery of each youth's unique life's mission in impact creation for global happiness through their passion and interest. Working with like-minded partners to create programs to empower youths to realise their fullest potential.

"Generally, many people did not realise when one is pursuing research and development in science, the tools and equipment that we need to conduct novel experiments have to be created if there isn't one available off the shelf. These are instrumental to the success of the experiments' findings and pave new way towards innovation as well as contributing to the scientific body of knowledge." – Dr. Yusrizam.

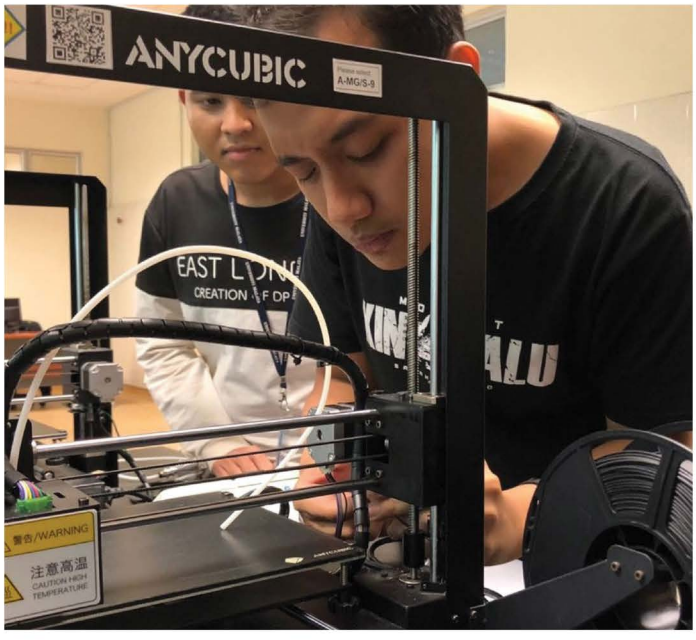
Designing and Innovating. Enabling Partners to Student's Creativity, Discovery and Passion.

By Ambrose Chia, M.Sc

Embarking into higher education studies to pursue a bachelor's degree in a chosen discipline is often out of interest, which has begun years ahead during one's discovery in earlier schooling adventures, a childhood dream, or following their idol's journey. However, there are also those that did not have such opportunities, discovery or guidance. They may be placed in a different discipline due to the availability of seats, encouragement from loved ones, close friends, or societal expectations. It may not be a discipline that one is fully confident in or has a personal vision and passion to use the knowledge gained during their time in higher education to chart their own career paths and profession of interest after graduation. Dr. Yusrizam Sharifuddin, Senior Lecturer at the Institute of Biological Sciences (ISB), Faculty of Science, Universiti Malaya (UM), shares the various available avenues for university students to discover the path to their passion. Dr. Yusrizam recently completed his two-year secondment as Principal Assistant Director under the National Nanotechnology Centre (NNC), Ministry of Science, Technology and Innovation (MOSTI).

Interdisciplinary modules

Universities in Malaysia offer modules outside the disciplines of an undergraduate student's major. These modules give students a broader skill set that allows them to apply to their future chosen careers. Such modules also bring together students from various backgrounds to work together. In UM, students can study for modules categorised under Students Holistic Empowerment (SHE) courses which cover a broad spectrum of topics. Dr. Yusrizam is teaching a module entitled Dealing with Pseudoscience and offered to students from various degree programmes outside the Faculty of Science. Malaysian universities also offer a special programme incorporated into the degree structure known as Service Learning Malaysia-University for Society (SULAM), which is a course-based, credit-bearing educational experience."Through these courses and programmes, students from different disciplines such as business, economics and law can bring different perspectives and understanding from students with science and engineering backgrounds and vice versa. We do not want our students to live in silos whilst at university and not learning new skill sets, especially softskills which despite its name, is harder to train and learn." Dr. Yusrizam explained. Such modules are also great places to meet potential future teammates who share a similar vision and passion.



Industry partners

At times, students are unable to imagine their future careers beyond conventional routes or their own perspectives. The university provided support through early exposure to industrial settings. "Most universities in Malaysia today forge close relationships with their industry partners, both locally and abroad, as envisaged by the Ministry of Higher Education (MOHE)" explained Dr. Yusrizam. Through this, students can get their first experiences in the industry, which also allows them to gauge if that career is what they are looking for or be better prepared. He added, "apart from the Industrial Training period included in degree structures, UM also has other programmes and platforms such as UM ELITE Fellow, whereby accomplished individuals especially alumni, are invited to teach for specified hours in selected degree modules. The university also created infrastructures and facilities on campus specifically to promote linkages and collaborations on dedicate initiatives with external parties, industry and community players alike. These included the UMX complex and centres at respective faculties such as engineering. Other Malaysian universities have their own similar set-up. Through such platforms, one can discover a passion for making a difference in a particular field.

Innovation Labs

Dr. Yusrizam also shared that in UM, there is facility support for budding innovators and future deep technology entrepreneurs to be. For example, passionate students who enrolled in the Advanced Molecular Spectroscopy course as part of their bachelor's degree programme at the Chemistry Department, Faculty of Science, UM successfully refurbished a UV-Vis spectrophotometer and gave it a new purpose in life as an interactive equipment for teaching and learning. The repurposed spectrophotometer is not placed at the lobby of the Chemistry Department. This is an example where the course's teaching and learning approach promotes knowledge application and for students to create impacts by following their passion in chemistry. This was partly enabled by Makerspace@UM. Started as an initiative by academics at the Chemistry Department, Makerspace@UM is equipped with 3D printers, laser engravers and now has numerous classes as well as workshops, many of which are run by students and for students. The student facilitators can be from different faculties such as the Faculty of Computer Science and Information Technology, thereby promoting multidisciplinary collaboration between students from diverse backgrounds. These students normally would participate in national and international competitions. "Generally, many people did not realise when one is pursuing research and development in science, the tools and equipment that we need to conduct novel experiments have to be created if there isn't one available off the shelf," explained Dr. Yusrizam. Designing and innovating are also part of the learning journey of the students, and this knowledge and skills to identify the missing critical component and design a functional component or process is a skill set that is invaluable.

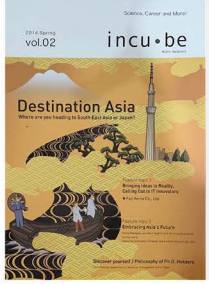
Taking a step

For students who through the various available avenues, discover new ideas, form teams with like-minded students and create innovations, the universities often have an office to support the commercialisation of those innovations, allowing the students to realise the path to their passion.

Another important source of opportunity and support is from the partners of the universities. Such as Leave a Nest's TECH PLANTER program. Dr. Yusrizam shared how he worked together with Leave a Nest to bring the 1st TECH PLANTER in Malaysia to UM as he believed that it would be beneficial to the University Innovation Ecosystem, allowing students and research teams to showcase their innovations to the various partners of Leave a Nest

Learning at universities should be the best experience for any individual. It is a risk-free and safe environment not only to further one's education but also to broaden one's life perspectives by moving outside comfort zones, pursuing existing passions or discovering new ones, and creating life-long friendships - Dr. Yusrizam

Dr. Yusrizam Sharifuddin
Senior Lecturer, Institute of Biological Science (ISB), Faculty of Science, Universiti Malaya



Read a previous interview article with Dr. Yusrizam Sharifuddin, incu.be, vol 02, published in 2014.

Exploring Horizons:
How Postgraduate Students Are Venturing into Different Fields

By Hannah Balisi, B.Sc

The traditional path isn't always the straightest. Postgraduate students are proving this by charting their own courses, venturing beyond their initial fields of study. This new breed of scholars is challenging conventional norms, seeking knowledge at the intersections of disciplines. As they explore uncharted territories, these academic pioneers are not only broadening their own horizons but also laying the groundwork for innovative solutions to complex global challenges.

Charting an Unconventional Course:
From Biomedical Science to Business Development

The case of Mr. Raja Zyroul Hisyam Bin Raja Yusoff exemplifies the trend of postgraduate students exploring diverse career paths. Having earned an undergraduate degree in Biomedical Science, he has embarked on a seemingly disparate trajectory, currently working as a sales representative for a medical equipment distributor. In this article we'll delve into the circumstances that led to this unconventional career path.

Mr. Zyroul Hisyam pursued a Bachelor of Biomedical Science at Universiti Malaya in Kuala Lumpur, Malaysia. Biomedical science is an interdisciplinary field that integrates biology and medicine to investigate the health of both humans and animals. Mr. Zyroul's pursuit of Biomedical Science was driven by a lifelong fascination with scientific inquiry, particularly biology and chemistry. His introverted nature led him to focus on the contemplative aspects of medicine, such as research and understanding human physiology, rather than direct patient care.

Career-Defining Choices

Mr. Zyroul explored various career paths. Initially, he sought a position as a research assistant in a government-led stem cell research initiative. However, he swiftly realized that this role was not aligned with his career aspirations, prompting a transition into sales. His first sales position was with a laboratory equipment distribution company. Mr. Zyroul's role as a sales representative proved instrumental in fostering personal growth, particularly in overcoming his introverted nature. The position demanded significant interpersonal interaction, thereby providing invaluable opportunities to develop and refine communication skills. Moreover, the role necessitated regular English language utilization, contributing to the enhancement of his proficiency in the language. Following a year in his role as a laboratory equipment sales representative, Mr. Zyroul made the decision to transition to a new company. He secured a position as a sales representative for a company specializing in the distribution of surgical machinery and products.

Concurrently with his role at the surgical machinery company, Mr. Zyroul embarked on a Master of Business Administration program. Driven by an intrinsic desire for intellectual growth and professional development, he sought to acquire knowledge with practical applications. A lifelong learner with a penchant for reading, Mr. Zyroul recognized the value of acquiring skills directly transferable to real-world scenarios. He viewed the MBA as a versatile qualification applicable across various career paths, providing a competitive edge regardless of industry or specialization.

Venturing into the Unknown:
Embracing Career Changes and New Domains

Mr. Zyroul's career journey exemplifies the power of curiosity and continuous learning. Despite working in different fields with his degree and MBA, he successfully applied his knowledge and skills in ways he found meaningful. This demonstrates how these qualities can drive professional growth and success across various industries. When asked about advice for those considering career changes, Mr. Zyroul emphasized the importance of following one's passions. He believes that work aligned with personal interests becomes enjoyable rather than a burden, fostering long-term satisfaction and fulfillment.

Embarking on a career path within an unfamiliar domain is undeniably a daunting prospect, often characterized by feelings of apprehension and uncertainty. It is essential to recognize that change, in any form, is inherently unsettling. However, it is equally crucial to acknowledge the potential for substantial rewards that lie beyond these initial anxieties. Overcoming these challenges can lead to fulfilling and enriching experiences. As the adage wisely states, "Fortune favors the bold", emphasizing the importance of courage and determination in navigating uncharted professional territories.

Casting a New Mould:
How Differing Strengths Align to Revolutionise Fracture Care

By Addi Ong, B.Sc

Singapore-based startup Castomize is on a mission to make healthcare more accessible and effective by moulding advanced manufacturing techniques into healthcare. Observing the startup's upward trajectory, their success is not onlyduetothestrengthofinnovativelycombining different fields of science and technology. It is also necessary to combine different passions and expertise of individuals. Vision translates into reality when complementary strengths align.

For Abel Teo, this means utilising his business management background in other spaces. Prior to Castomize, Abel supported small local businesses in Singapore. Having the ability to see how strengths align, his decision to operate alongside small businesses and the deep tech space is well thought out. These domains are filled with passion, the focused mindsets of business owners and the scientific prowess of researchers. Yet they also require help in the necessary business side that complements their strengths. When people collaborate and their strengths harmonise, entrepreneurship can be remarkable.

The Journey of Castomize

For Abel to get to this point with Castomize, the journey began with curiosity and a desire to create a positive impact on society. Abel teamed up with friends from SUTD to turn a research project into a business.

Castomize's vision is to create a world where everyone, everywhere can gain access to the healthcare they need to lead healthy, fulfilling lives, regardless of financial or social status.

Beginning with aims to revolutionise the way fractures are treated, their first product is a comfortable, convenient cast. Traditional bulky plaster casts have a long implementation time and incorrect fits begin days of discomfort, inconvenience and a risk to infection. Based upon material science research performed at SUTD, Castomize's solution is substituting the clumsy process with an easy-to-apply water-friendly cast.

In similar fashion, as the progressing strengths of scientific fields must work together, so too the people who hold these strengths and passions.

CASTOMIZE

Systemic Changes for Success

The success for deep tech startups is not as smooth as a surface level story of Castomize may portray. Many amazing research projects never see commercialisation. For Castomize, it required decisive determination from the team and clear fixed milestones for the startup's inception and continuation. As a business person in the deep tech field, Abel believes in the importance of collaboration between the first group, researchers, and the second group, those with commercial expertise, in two ways that both highlight enhancing the environment in which entrepreneurship can flourish.

First, that universities should encourage researcher spinoffs by providing financial support, allowing researchers to continue their work while commercialising their innovations. Monetary support gives researchers the freedom to explore entrepreneurship. Second, exposure for interested business students to the world of deep tech and impact. Since scientific and social impact fields need individuals from business management backgrounds, crafting opportunities for the interaction between these groups will bridge the strengths and passions of people to aid impact creation in society.

Now recognised as members of Forbes' 30 Under 30, the Castomize team looks toward subsidised disaster relief, and beyond fracture care. Castomize continues their impact, and Abel continues his journey.

Contact Details:

Email: info@castomize.co
Website: castomize.co

Empowering the Future:
Highlights from the Inaugural Women in STEM Empowerment (WiSE) Event

By Nor Ilia Anisa (PhD, PEng)

Women in STEM Empowerment (WiSE) is a program to empower women from school students, university students, mid-career women and professionals. An inaugural WiSE was conducted on May 28, 2024 at IMU University, as one of Leave a Nest university partners. The program was conducted in conjunction with International Day of Action for Women Health 2024. Themed with "Cultivating Excellence in Women's STEM Careers", the programs featured a few activities such as keynote session, EmpowerHER Tea Talk, EmpowerHER workshop, WiSE booth and health check. The main objective of this program is to create a more inclusive ecosystem in empowering women.

The key partners included the Academy of Sciences Malaysia (ASM) and Premier Integrated Labs, with support from the Pusat Sains Negara (PSN), the National Association of Women Entrepreneurs of Malaysia (NAWEM), Asia Pacific University DIGITGAL, and the National STEM Association (NSA) and Anaquin Sdn Bhd.

Women in STEM Empowerment (WiSE)

Highlight Activities at WiSE 2024

(i) EmpowerHER Tea Talk (ii) Gathered various entities at WiSE (iii) Booth featured 23 exhibitors

(i) Troopers on the Move by PSN (ii) Health check by IMU University (iii) Concurrent workshops

Supporting and Inspiring at WiSE

Supporting and Inspiring women from school students to mid-career professionals is crucial for empowering women in STEM fields. Youth can be exposed to career opportunities in STEM, motivating them to pursue studies in these areas. They will be inspired by successful figures in the STEM workforce, including engineering and healthcare professionals. Another initiative to inspire youth in STEM careers, including WiSE Talks prior and after WiSE program - a collaboration with NSA and Women Engineers of Institute of Engineers Malaysia, respectively.

As WiSE looks towards 2025 and beyond, the commitment to mentoring and inspiring the next generation of female STEM professionals remains strong, ensuring that women continue to lead and innovate in their respective fields.

Foster a foundation of support and opportunity to drive future innovation

Premier Integrated Labs:
Fostering Employee Growth and Igniting Passion

by Nor Ilia Anisa Binti Aris (PhD)

In today's rapidly evolving world, Premier Integrated Labs stands out through its exceptional commitment to employee support. Ms. Sulaiha Rahman, Senior Manager Head of Commercial, reflects on her journey of passion and growth since joining the company.

Fostering Potential and Nurturing Passion

Sulaiha Rahman's career trajectory is a testament to Premier Integrated Labs' dedication to nurturing employee potential. With a degree in Chemistry, Sulaiha initially aimed to become a Medical Lab Technologist in 2003. However, her talent in sales was quickly recognized, and she was offered a position as a Marketing Executive. During her early years in the role, she discovered a true passion for business development. To further enhance her expertise, Sulaiha pursued an MBA, broadening her knowledge and skills. Premier Integrated Labs has been instrumental in her professional development, providing an environment that encourages exploration and personal growth. This approach highlights the company's commitment to fostering innovation and individual advancement.

Ms. Sulaiha Rahman, Senior Manager and Head of Commercial, Premier Integrated Labs.

Promoting Career Development

At Premier Integrated Labs, career development is a core focus. Sulaiha has greatly benefited from mentorship under leaders with diverse styles, which has significantly shaped her professional growth. The management team actively supports the business development unit, encouraging idea-sharing and strategic discussions through regular brainstorming sessions. This collaborative atmosphere has influenced Sulaiha's management style, promoting flexibility and open communication within her team. She places high value on inclusivity, recognizing that each employee's unique contributions are vital to the company's success.

Empowering Women in the Workforce

"I pay special attention to women due to their unique personal responsibilities", says Sulaiha. Her approach is well-regarded by her team, including staff member Nuramalina, who praises Sulaiha's guidance and flexibility. Premier Integrated Labs consistently supports the development of women in the workforce, understanding their needs and fostering open discussions about the challenges they face. For example, Sulaiha addressed a staff member's burnout by adjusting job responsibilities to improve work-life balance. She encourages open dialogue and creates opportunities for her team to advance their careers.

The supportive culture at Premier Integrated Labs has led to numerous employee successes, including a recent achievement by Dr. Patsy Ng, who won the 'Emerging Leadership in AI' award at the Women in AI Awards 2024 for the Asia Pacific Region (APAC).

Business Development Unit team, Premier Integrated Labs

Future Horizons

Premier Integrated Labs remains dedicated to employee growth, inspiring passion and interest among its team members, and fostering an environment where everyone can thrive. The company is committed to implementing exemplary workplace practices, aiming to be recognized for innovation in delivering world-class lab services, extending beyond hospitals to commercial labs. By upholding these values, Premier Integrated Labs not only enhances its own performance but also sets a benchmark for excellence in the industry. As the company continues to evolve, its steadfast commitment to its employees promises a bright and successful future for both the organization and its talented workforce.

Exploring the Mind Through Technology Expeditions

By Ronrick Arayata, B.Sc

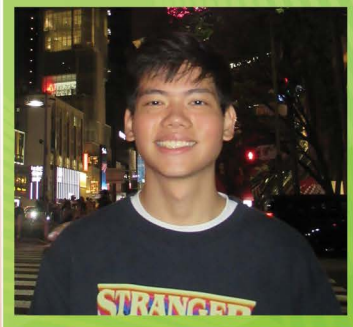
Through the mission of the Leave a Nest Group in further bridging the different sectors of society, tours for university students are often done in order to let them see what the world is like outside of their classroom walls. One of said tours is the Ateneo Tech Xplore which originated from the Resident Entrepreneur of the Ateneo Intellectual Property Office, Mr. George "GQ" Quitoriano, who wanted to encourage students from the Ateneo de Manila University to become future entrepreneurs of the country, which very much align with the goals of Leave a Nest. Through the various connections of Leave a Nest, a partnership was born which aimed to conduct tours for students to expose them to various technologies and startups and how it was made into a business.

These tours offer a different kind of experience as it aims to be interactive wherein the participants also contribute to the sharing of knowledge, instead of having a one-sided communication from the industry. This gives the tour a unique twist as both parties begin to learn from one another. Some of the students who joined the recent Ateneo Tech Xplore were able to share their experience with the tour. See what they have to say below.

Site Visits and Demonstrations

Ma. Erica Chua, B.S Management, 4th year student

Having a minor in data science and analytics, Erica is really interested in technology, and so she joined this tour to experience the various technologies and innovations happening outside the Philippines. She found it especially interesting that the tours were not only composed of regular talks, as there were also site visits and demonstrations and they got to know how the technologies are made. Through the stories shared by the startups they visited, she got motivated to join a startup and is now doing an internship with one startup in the Philippines.



Culture Immersion

Jacob Gan, B.S Management, 3rd year student

Jacob joined the tour wanting to gain the knowledge of how international businesses work with the aim of using this knowledge in expanding their own business in the Philippines. He especially enjoyed a unique aspect of the tour wherein they were allotted free time to experience the culture of Japan instead of just having business meetings with the startups. With his goals being met after the tour, he is now planning on using that knowledge to help expand their family business outside of the Philippines as well.

Interactive Experience

Caitlin Elise Cornel, A.B Diplomacy and International Relations, 4th year student

Finding the tour to be connected in a way to her course, Caitlin took the opportunity to join the tour and develop her skills. One memorable experience she had with the tour is when they were asked to do a presentation to one of the startups they visited, which somewhat threw her into a challenging and nerve wracking situation as she was only expecting to listen to those startups. Ultimately, she was able to overcome this hurdle as she actually did quite a wonderful presentation and was even praised by the startups. Not only did she enjoy the trip to Japan, but she also discovered that she had a knack for presentations in the end.

Final Message

Engr. Ronezza Delos Santos
Director of Leave a Nest Philippines and Project Lead of the Ateneo Tech Xplore Tour

There are certainly times when students really need to experience a certain kind of "trigger" in order to start the fire of motivation hiding inside. Just as I was determined to solve various issues in the Philippines after my experience with **TECH PLANTER**, I hope to strike the same kind of determination to the hearts of the youth and have them be the future developers of society. I invite the students to use this opportunity to "explore" and see the potential of Science and Technology to help solve various issues that we have in society.

NEST Leadership Camp

The Human Development Division at Leave a Nest is dedicated to nurturing talent, fostering growth, and empowering individuals to reach their full potential. Through various programs, workshops, and resources, we aim to shape well-rounded individuals equipped with the skills and mindset necessary for personal and professional success. Our mission is to inspire lifelong learning, cultivate leadership qualities, and build a community of empowered changemakers ready to impact the world.

To empower the next generation, we have launched the "NEST Leadership Camp", which bridges scientific knowledge with effective communication through our Science Bridge Communication (SBC) practice. This program is a cornerstone of our efforts to nurture future leaders in science and beyond.

The camp includes two phases: the SBC training workshop and Communication Stewardship. Participants will engage in workshops and hands-on activities, honing their leadership skills while exploring scientific discovery. Targeted at university, college, polytechnic, and other higher education students, the camp provides valuable insights under experienced mentors' guidance, helping attendees lead their student organizations while fostering a deep appreciation for science.

By enhancing SBC training with on-site communication stewardship, we aim to develop well-rounded individuals poised to make a significant impact in science and beyond. Ultimately, we seek to nurture the next generation of leaders who are agile, adaptable, and prepared to drive innovation and positive change in a rapidly evolving world.

Calling for participants

October 2024 Cohort
Date: 5th, 18th, 19th & 20th Oct 2024
Communication stewardship: Science Castle Asia 2024 (https://s-castle.com/en/schedule/asia2024/)
Venue: C.O.G. & MMU, Cyberjaya

November 2024 Cohort
Date: 9th, 22nd & 23rd Nov 2024
Communication stewardship: Hyperinterdiciplinary Conference in Malaysia 2024 (https://hiconf.lne.st/conference/malaysia2024/)
Venue: C.O.G., Cyberjaya & NIOSH, Bangi

Contact

izwan@lne.st (Dr. Izwan)
arief@lne.st (Dr. Arief)

Previous report: https://global.lne.st/news/my/2023/11/02/nest-leadership-camp/

Webpage: https://global.lne.st/nest-leadership-camp/

Member's Passion: The Story of the Engineer Entomologist

By Ronrick Arayata, B.Sc

Edriel Tan Lee is a graduate of B.S Mechanical Engineering at the University of the Philippines - Diliman and is the most recent addition to the current roster of Leave a Nest Philippines members. He is mostly fond of cooking and baking, and he also likes doing exercises in order to stay fit and healthy. He was raised in the urban landscape of Manila, where he also developed a profound appreciation for nature within the small green spaces of the city.

An Unexpected Change in Career

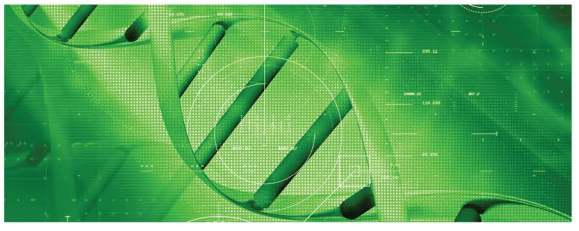
Despite being a graduate of Mechanical Engineering, Edriel's interest mostly lies in Biology. Edriel found out that he actually liked animals and insects ever since he was a kid, as he found himself intently observing the animals whenever his parents took him to the zoos. The main reason why he took up engineering is due to the fact that his skills in memorization and computation during his high school years were quite exceptional, that he felt he needed an avenue to apply those skills in his life later on. But during his everyday life in college, being surrounded by all the lush greeneries in the university, with all the insects and animals that come along with nature, it became a constant fuel for his passion in Biology to keep burning strongly inside him. After graduating from his course in engineering, he immediately took up a Diploma in Biology program at the same university to pursue his passion.

The Choice to Pursue One's Passion

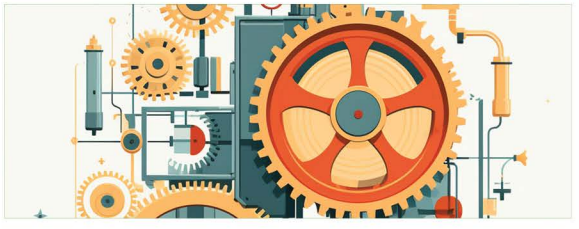
Even for Edriel, shifting courses from one field to another was not an easy decision. There are a lot of uncertainties and factors involved when shifting to another course, which would potentially alter your overall career in the future. The time and effort already spent also seem like a waste when you go to another field. For this, Edriel's advice to individuals who could relate to this kind of situation is simply to follow your passion and chase what your heart desires. Of course, nothing beats doing what you love the most as your future career, as every day will feel like an enjoyable task instead of dreadful work. For Edriel, he certainly did not regret this shift.

Utilizing the Best of Both Worlds

Edriel was able to use both of his skills in Mechanical Engineering and Biology when he joined Leave a Nest to become a Science Bridge Communicator. Leave a Nest employs members with a variety of skills and backgrounds, wherein Edriel certainly fits in with his dual-field skill sets. Instead of only using his knowledge in Biology, he was also able to utilize the skills he learned in Mechanical Engineering, especially for Science experiment workshops and mentoring sessions. It might be a common worry for people shifting to a different field that their skills might be wasted once they shift, but as a matter of fact, acquiring more skill sets across different fields actually gives you more opportunities, as companies like Leave a Nest, give value to a more interdisciplinary composition of its members.



Through Edriel's journey from being a Mechanical Engineer to a Biologist, he was able to gain much knowledge from two completely different fields and use these skills in real-life applications. Oftentimes, people find it difficult to make career-altering choices, especially through adulthood, but more often than not, the people who don't choose to follow their passion often regret it later in their lives as they reminisce about what they could have done differently in the past. Edriel encourages everyone to embrace their passion and find their niche, as the most important thing is to choose happiness and to choose something that you love doing.

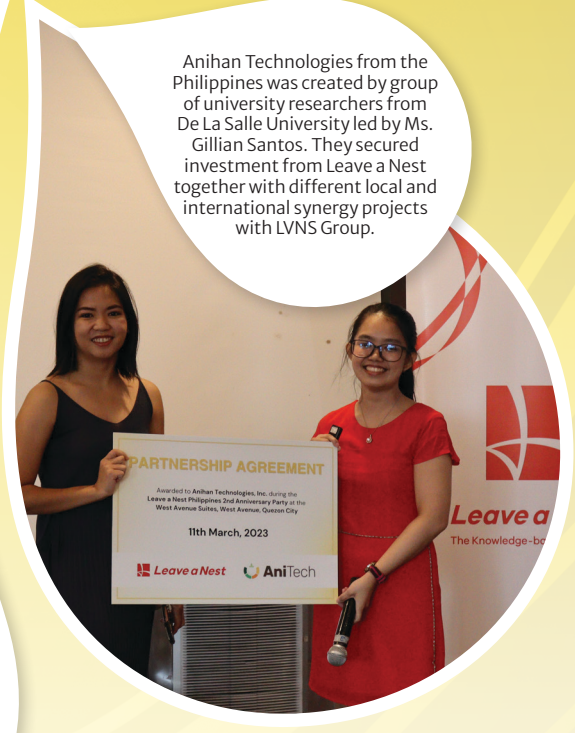


RESEARCH DEVELOPMENT

Malaysian startup coming from University Putra Malaysia, Qarbotech, was hailed as TECH PLANTER Asia Final 2021 Grand Winner and has seen continuous success as a budding nanotech and agritech startup outside the walls of academia.

Sprouting from Singapore's research institute of A*STAR, WaveScan Technologies is an A*START spinoff startup led by researchers that has created impactful microwave & millimeter-wave sensors for reduced destructive methods for scanning and predictive maintenance in various machineries & industries.

Anihan Technologies from the Philippines was created by group of university researchers from De La Salle University led by Ms. Gillian Santos. They secured investment from Leave a Nest together with different local and international synergy projects with LVNS Group.



Lab to Launch: Researchers' Window for Societal Breakthrough

Academics and researchers have been society's top primary creators of cutting-edge knowledge that has proved potent for progress. However, what stops them from also being the primary technology builders and benefactors of the pioneering innovations they create? The Leave a Nest Group champions to equip passionate researchers with a mindset to undergo technology transfer and commercialize through cross-border programs & events that expose them to the industry and society needs.

From Lab to Market: The Hurdles of Academic Commercialization in Malaysian Universities

by Mahirah Basri, MBA

Venturing from the halls of academia to the bustling marketplace, researchers at Malaysian universities encounter a labyrinth of challenges. These hurdles, ranging from limited business acumen to financial constraints and bureaucratic red tape, stymie their efforts to transform groundbreaking research into market-ready products. While universities strive to support their innovators, significant gaps remain that must be bridged to foster a truly thriving ecosystem of innovation.

Lack of Business Acumen

One of the most pressing issues researchers face is a fundamental lack of understanding of the business world. Academicians, by nature, operate in an environment vastly different from the commercial sector. A professor from one university points out that researchers are not typically required to commercialise their products or research, hence generally lack business knowledge. This sentiment is echoed by researchers from other universities, who highlight the gap in business knowledge among their peers. This lack of business acumen becomes a significant barrier when researchers attempt to bring their innovations to market, as they struggle to navigate the complexities of commercialization. Even as some researchers take the initiative to look for opportunities beyond the university environment, many remain oblivious to the potential collaborations and partnerships that could help them bridge this knowledge gap.

Financial and Capital Access Barriers

Compounding the lack of business knowledge is the difficulty in accessing capital. Most grants available to researchers are limited to the fundamental research and prototype stages, with little to no funding available for pre-commercialization phases. A professor emphasizes the scarcity of financial support for commercialization efforts. Researchers often find themselves in a financial limbo, unable to advance their projects beyond the prototype stage due to a lack of funding. Another researcher highlights this issue, where the financial benefits of commercialization are minimal after accounting for operational costs and the university's share of the profits. This financial gap leaves many promising innovations stalled at the prototype stage, unable to reach the market

Administrative Hurdles and University Policies

In addition to financial barriers, administrative processes within universities pose significant challenges. One university researcher describes the lengthy approval processes for Memorandums of Understanding (MOUs) and Non-disclosure Agreements (NDAs) with external parties, which can take six to eight months. This delay often leads to a loss of interest from potential collaborators. Additionally, universities' equity stakes in spin-offs vary widely, impacting researchers' motivation and financial incentives. For instance, one university holds a 25% equity stake in spin-offs, while another offers a minimum of 20%-30% equity to inventors. Yet another university holds a 10% stake. The distribution of equity and revenue from intellectual property (IP) also varies, with some universities taking up to 60% of IP revenue, further discouraging researchers. These administrative hurdles add another layer of complexity to the commercialization process, often deterring researchers from pursuing their entrepreneurial ambitions.

Balancing Academic Responsibilities and Commercialization

The challenge of balancing academic responsibilities with commercialization efforts is another common theme. Researchers often struggle to find time for commercialization activities while fulfilling their teaching and administrative duties. This balancing act between academic duties and commercialization efforts adds to the stress and workload of researchers, making it challenging to dedicate sufficient time to bring their innovations to market. The support provided by universities is crucial in helping researchers manage these dual roles effectively.

Perceptions from Early-Stage Investors

The perspectives of early-stage investors further illuminate the challenges faced by university spin-offs. Investors often find that researchers struggle to explain their business models and tend to focus predominantly on their products. This communication gap necessitates hiring external experts to evaluate the technology, making the investment process more cumbersome. University spin-offs are generally seen as very research-oriented, with a lack of understanding of market demands and business fundamentals. Researchers are often perceived as risk-averse and slow to adapt to the fast-paced business environment. This misalignment between academic and commercial priorities underscores the need for improved training and mentorship to help researchers develop scalable business models and understand market needs. Investors also note that private universities are more proactive in seeking collaboration and support for their entrepreneurship programs, highlighting a potential area for public universities to improve.

Moving in the Right Direction

Despite these challenges, universities are making efforts to support researchers in their commercialization journeys. One university provides flexibility by reducing the workload for researchers involved in spin-offs and does not hold any equity in these ventures to avoid liability. Another university supports researchers with free business classes, boot camps, and office space, while a third university covers travel and exhibition costs and reduces teaching loads for researchers. Additionally, some local universities have started engaging with local accelerators to provide necessary training and other support to spin-offs. There has also been a positive shift in the government and corporates' preference for local products, indicating a growing recognition of the value of local innovations. This shift reflects a broader trend of increasing support for local innovations, providing a more favourable environment for researchers. These efforts by universities are crucial in helping researchers overcome the barriers to commercialization, though more needs to be done to provide comprehensive support.

The journey from research to commercialization is fraught with challenges, including a lack of business knowledge, financial barriers, administrative hurdles, and the need to balance academic responsibilities. While universities provide varying degrees of support, significant gaps remain. Collaboration with investors and continuous training are essential to bridge these gaps, enabling researchers to transform their innovations into successful commercial ventures. As all parties work together, the landscape for academic commercialization in Malaysia will undoubtedly evolve, fostering a robust ecosystem for innovation and growth. Increased efforts to streamline administrative processes, enhance financial support, and provide comprehensive business training will be crucial in overcoming these challenges and driving progress in the commercialization of academic research. This collaborative approach will ensure that researchers are well-equipped to bring their innovations to market, ultimately benefiting the broader economy and society.

**Disclaimer : This article was written based on information received from researchers from various local universities and early stage investors.*

A Global Centre for Research in the Heart of Tokyo: Takanawa Gateway City

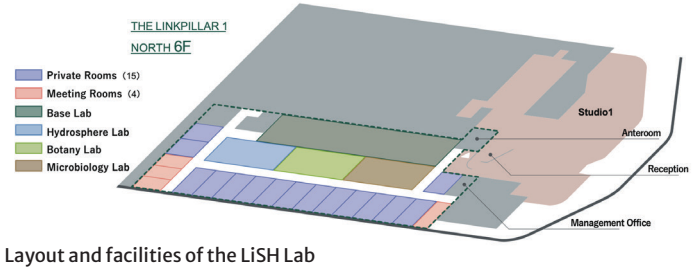
by Haruka Sakurai, M.Sc

Overview of the Takanawa Gateway City, JRE's largest urban development project in the heart of Tokyo

If you have ever been to Japan before, surely you would have ridden on one of the JR train lines. Little would you think that the company that owns these lines, East Japan Railway Company (JRE), is building one of the most vibrant research ecosystems in Japan right in the heart of Tokyo. It is JRE's largest urban development project yet, where the whole new city will span an area of 845,000 m^2, serving as an "experimental site" for solutions in the three themes of environmental protection, mobility and robotics and healthcare services.

An Experimental Site for Research to Build the Next 100 Years

Under the mission of "To create enriching lives for the next 100 years", the concept of Takanawa Gateway City (or "The City") is to provide a place for implementation of solutions stretching from The City into society. For deep tech, the approach to innovation is radically different to software-based innovations, as deep tech solution building typically needs a physical space for research and development (R&D) and Proof of Concepts (PoC), along with a robust network of ecosystem players to enable that. With that, The City aims to bring together both the enablers, such as universities, corporate network, and accelerators, as well as the physical space, one of which is a BSL2 wet lab facility called the Takanawa Gateway Link Scholars Hub Lab (LiSH Lab).



Layout and facilities of the LiSH Lab

Gateway for Overseas Institutions into Japan

With direct access to Haneda International airport, researchers in South East Asia can consider opening an R&D facility in the labs if they wish to strengthen R&D collaboration within Japan. Top research institutions from around the world such as the University of Tokyo (Japan) and others have already joined as partners. For example, the University of Tokyo is set to open its new campus in The City to promote their collaborative projects with corporations. Any resulting spin offs from the research can then be directly incorporated in the incubation space and continue to leverage on Japan's R&D capabilities as well as The City's commercial opportunities.

The New Norm: A City as a Research Hub

In this way, The City poses itself as a global knowledge hub with a strong emphasis on cross border R&D, commercial collaboration, and implementation. Leave a Nest supports this project of the century, to invite researchers from South East Asia into Japan. While The city itself will only open in March 2025, the wet lab facilities are accepting tenants.

For more information, you may scan the QR code below or go to this link https://www.takanawagateway-lish.com/.

For those who are interested in this opportunity, please contact Ms. Haruka Sakurai (sakurai@Lne.st)
(All images are provided by East Japan Railway Company)

Hyper Interdisciplinary Conference

Bridging Filipino Perspectives:
HIC PH Goes 'Beyond Borders' for a Symbiotic Society

by Alecks Megxel Abordo, B.Sc

In an era marked by rapid technological advancements, environmental challenges, and global interconnectedness, the concept of a symbiotic society—where diverse disciplines, cultures, and ideologies harmoniously coexist and collaborate—has never been more pertinent. Since 2019, Leave a Nest Philippines, Inc. has worked to bridge the gaps between these viewpoints through the Hyper Interdisciplinary Conference in the Philippines (HIC PH).

HIGHLIGHTS OF HIC PH 2024

November 9, 2024 | 9:00AM - 5:30PM
Leong Hall, Ateneo de Manila University, Quezon City, Philippines

Keynote Session:
Beyond Borders: Uniting Perspectives for a Symbiotic Society

Panel Session 1:
Crafting Solutions for Environmental Resilience

Panel Session 2:
Cutting-Edge Food Technology and Innovation

Panel Session 3:
Navigating the Intersection of Biomedicine and Public Wellness

SCHEDULE OF ACTIVITIES

9:30 - 10:00	**Opening Ceremony**
10:00 - 11:00	**Keynote Session**
11:00 - 11:30	**Research Splash 1**
11:30 - 12:00	**Poster Session 1**
12:00 - 13:00	**Lunch Break**
13:00 - 14:00	**Panel Session 1**
14:00 - 14:30	**Research Splash 2**
14:30 - 15:00	**Poster Session 2**
15:00 - 16:00	**Panel Session 2**
16:00 - 17:00	**Panel Session 3**
17:00 - 17:30	**Awarding and Closing Ceremony**

The Hyper Interdisciplinary Conference in the Philippines (HIC PH) 2024, themed "Beyond Borders: Uniting Perspectives for a Symbiotic Society," strives to achieve this ambitious vision by convening Filipino thought leaders, innovators, and scholars from diverse fields, fostering a national dialogue that transcends conventional boundaries, and encouraging collaboration across disciplines to tackle the complex challenges facing the Philippines.

HIC PH is essential for promoting collaboration across various sectors and regions. Given the country's diverse cultural, social, and economic landscape, HIC PH serves as a platform to integrate knowledge from different disciplines. The conference inspires innovative solutions, promotes inclusive growth, and drives national progress.

HIC PH 2024 will have three panel sessions tackling issues relevant to the Philippines, specifically ecological footprints, food technology, public health and biomedical science. The first panel session highlights the importance of designing and implementing actionable plans to foster ecological balance and resilience. The second panel session explores the latest advancements in food technology and innovation, aiming to enhance efficiency, health, and environmental responsibility in the food sector. Lastly, the third panel session emphasizes the crucial link between advancements in biomedicine and the promotion of public health within the framework of sustainability.

For more information, kindly visit our website: https://hic.lne.st/schedule/ph2024/ or you may scan the QR code.

HIC PH 2024

Hyper Interdisciplinary Conference

Serendipitous or Designed: The Duality of Impactful Innovation

by Sivakumar Thamizvanan. M.Sc

This coming November, Hyper Interdisciplinary Conference in Singapore will look at the overall theme "Serendipitous or Designed: The Duality of Impactful Innovation". Through this session, we will explore questions surrounding the design of innovation environments by considering the value of innovation spaces that encourage serendipitous discoveries versus top-down directives controlling parameters to reach an objective. It is difficult to say which is better. Exploring the discussion with the panellists, participants could refine envisioning the best environment for innovation.

Hyper Interdisciplinary Conference in Singapore 2024

Date: 16th November 2024
Time: 9:30 am - 5:30 pm
Venue: Create Theatrette 1 CREATE Way, Level 2 CREATE Tower,Singapore 138602

TIME	CONTENT
9:30- 10:00	Opening Ceremony
10:00 - 11:00	**Panel Session 1**
11:00 - 12:00	**HIC Splash**
12:00 - 13:00	**Poster Session + Lunch**
13:00 - 13:15	**Speech by Keynote Speaker**
13:15 - 14:00	Keynote Session
14:00 - 15:00	**HIC Splash**
15:00 - 16:00	**Poster Session + Tea Break**
16:00 - 17:00	Panel Session 2
17:00 - 17:30	Closing Remarks, Photo taking and Networking

Academic Partner:

SMART Singapore-MIT Alliance for Research and Technology | Innovation Centre

Session Supporter:

delightex ugo

Note: Data as on 19th August 2024. Theme and topics are tentative

Unlocking Innovation: Designing Smart Cities with Empowering Human Life with New Era of Technology

Given the challenges of an ageing population and a persistent labour shortage, integrating AI-powered robots is crucial for enhancing operational efficiency and addressing workforce gaps. These robots can automate routine tasks, manage inventory, and handle risky environments, alleviating burdens on human employees. By taking on dangerous or repetitive work, robots help reduce workplace risks and allow human workers to focus on more complex or creative tasks.

Ground Up Community Building: Technology's Place in Aiding Mental Wellbeing

The panel is to discuss mental health technology and the value of taking an analytical structured lens to the world of social impact. At the moment, Singapore's social impact scene is disunified with many motivated small groups of individuals driving their own initiatives. Addressing potential problems will be essential given the circumstances after Covid pandemic.

Details of the conference panel sessions including the panellists, conference partners, and the emerging research will be updated as the conference looms closer. For updated information, kindly visit our website: https://hic.lne.st/en/schedule/sg2024/

Research Splash
https://global.lne.st/hicsgnov2024rs

Audience
https://global.lne.st/hicsgnov2024aud

Hyper Interdisciplinary Conference

Leveraging Technologies in the Face of Natural Disasters

by Sharifah Nabihah Syed Othman, Ph.D

The Hyper Interdisciplinary Conference in Malaysia (HIC MY) November 2024 aims to unite experts, researchers, and stakeholders to explore the use of technologies in addressing natural disasters. HIC MY 2024 will kick off with a Keynote Session focusing on enhancing resilience in disaster management. The session will highlight the necessity of transforming Selangor's Disaster Management System to ensure sustainability and efficient crisis response. Stakeholders engaged in discussions to address current challenges and develop strategies for building a more resilient and well-prepared society in anticipation of potential disasters.

Hyper Interdisciplinary Conference in Malaysia 2024

Date: 23rd November 2024
Time: 9:00 am - 5:30 pm
Venue: Selangor, Malaysia

START	CONTENT
9:00	Registration
9:30	**Opening Ceremony & Keynote Speech**
10:00	**Panel Session 1: Sowing Sustainability in Agri-Food Systems Amid Disaster**
11:00	**HIC Splash**
11:30	**Panel Session 2: From Data to Decisions: Monitoring Technologies for Predicting Disaster**
12:30	Lunch break
13:30	**Poster presentation**
14:30	**Mindstorm Session: Strengthening Frameworks in Disaster Planning**
16:20	Refreshment Break
16:30	Award & Closing Ceremony

Innovative Approach to Disaster Resilience

The conference will host two forum sessions where key stakeholders will participate as panellists and delve into specific areas crucial for disaster resilience. The first session will emphasise the importance of incorporating sustainability into agri-food systems to lessen the impact of disasters on agricultural practices. Strategies such as sustainable farming techniques and the integration of technology and innovation will be explored to create stronger food resilience systems. The second session will underline the significance of monitoring technologies in accurately predicting disasters through real-time data collection and analysis. By leveraging machine learning and artificial intelligence for quick decision-making and resource allocation during crises, these discussions aim to save lives and reduce socio-economic impacts.

Catalysing Disaster Resilience

Additionally, the conference features a new and special interactive approach called Mindstorms Session, where all participants are empowered to contribute their insights and define their roles throughout the disaster management process. It offers a unique opportunity for individuals to actively engage and shape the future preparedness and resilience of Malaysia. Alongside this session, the HIC Splash Session and Poster Session will showcase innovations in disaster resilience, emphasising the role of deep technologies in improving preparedness. The conference aims to foster collaboration among experts, stakeholders, and researchers to leverage cutting-edge technologies for disaster resilience. Through discussions, innovation showcases, and collaboration, dynamic strategies and solutions are developed to enhance preparedness, response, and resilience to natural disasters. Potential participants are encouraged to join this transformative experience to drive advancements in disaster planning and response strategies.

Why Aquaculture and Sustainability?

Aquaculture now supplies over half of the world's aquatic food, surpassing wild fish catch, with demand set to double by 2050. However, its rapid growth brings environmental, social, and economic challenges, requiring more sustainable practices and collaboration among stakeholders to ensure responsible and climate-friendly development.

Objectives

The inaugural Sustainable Aquaculture Summit (SAS) aims to achieve the following objectives:

- Identify challenges and opportunities in the aquaculture and marine industry, especially in implementing sustainability practices
- Develop strategies and synergize efforts to overcome challenges
- Showcasing innovative research and development
- Initiate cross-border collaborations and networking in the aquaculture research and industry in Malaysia and Southeast Asia

How to Utilise SAS 2024 Platform

- Share experience in developing and implementing new technologies in aquaculture; from cultivation, feeding to harvesting and sales
- Share experience in building a more sustainable aquaculture community in Malaysia, SEA, and Japan
- Connect with potential partners and collaborators
- Increase visibility of business and technology offered

Sustainable Aquaculture Summit "Strategizing Collaborative Efforts for a Sustainable Aquaculture Industry in Malaysia and Beyond"

Sustainable Aquaculture Summit

Key Activities

- Keynote Address
- Partners Technology Showcase
- Disruptive Technology for Aquaculture
- Forum Session
- Modernising Traditional Practices in the Aquaculture Industry through Technology Implementation
- Knowledge Manufacturing Ignition
- Teams (different stakeholders) to discuss on issues in a discussion session, and propose an effective solution in a short pitch session
- Pocket Talks
- Poster Session

Calling for Poster Presenter and Participants

Invitation for poster presenters and participants to join us at the Sustainable Aquaculture Summit 2024, where you can showcase your research, innovations, and ideas while engaging with leaders and experts in the aquaculture and marine industries. Don't miss this opportunity to be part of vital discussions on sustainability and shape the future of aquaculture!

https://global.lne.st/sas2024_registration

Tentative Agenda

TIME	CONTENT
08:30 -09:00	Registration
09:00 - 09:15	**Welcoming Ceremony**
09:15 - 09:30	**Innoqua - USM MoU Signing**
09:30 - 09:50	**Keynote Speech**
09:50 - 11:10	**Disruptive Technology for Aquaculture (Partners Showcase)**
11:10 - 12:40	Knowledge Manufacturing Ignition - Team discussion
12:40 - 14:00	**Lunch Break, Booth Exhibition**
14:00 - 15:00	**Poster Session, Booth Exhibition**
15:00 - 16:00	Forum Session
16:00 - 16:30	Knowledge Manufacturing Ignition - Pitch
16:45 - 17:30	Pocket Talk Session
17:30-18:00	Closing Ceremony

FRONTIER DEVELOPMENT

Startups and corporations discussed partnership with Japan given the competitive nature and if it is necessary for them to work together in order to advance respective businesses during Tech Venture Meetup in Singapore 2023.

Dr. Ayappa V. Subramaniam of Leave a Nest Malaysia speaks as the Project Leader of Tech Planter in Malaysia in 2024, which is in its 10th year of implementation.

Dr. Josette Biyo, former Director of the Philippine Department of Science and Technology - Science Education Institute (DOST-SEI) welcomes scholar-participants of the Scholars Technopreneurship Training Program (STTP) 2024.

Democratizing Deep Tech in Southeast Asia

In the next 10 years, the Southeast Asian region is expected to continue to be one of the fastest-growing regions of the global economy and an increasingly important growth engine for the Asia-Pacific region as a whole (S&P Global, 2024). However, in order to supplement this current growth, which is primarily due to non-technological sectors such as tourism, deep technologies should also be given priority so that they can solve deep issues in the region. As different countries within the region have different levels of technological and economic development, a strategy and system that is inclusive for the whole area is needed in order to allow the free flow of deep technology and knowledge all throughout Southeast Asia.

Six Victories, One Destination: Introducing the Grand Winners of TECH PLANTER Asia

by Jondi Doplayna B.Sc, and Jewel Santos, B.A

Started as an acceleration program to nurture deep tech startups in Japan, the TECH PLANTER Program has expanded to Southeast Asia since 2014, continuously fostering an ecosystem that aims to solve deep issues and connect passionate entrepreneurs and academic researchers in Asia. In the 11th year of the program's implementation, Leave a Nest Group introduces the six grand winners from the Philippines, Singapore, Malaysia, Thailand, Vietnam, and Indonesia who have completed their presentations in year's TECH PLANTER Asia Final.

Philippines: FilRobotics Technologies, Inc.

The AGROTIS Navigation System, developed by Filrobotics Technologies, is an 'Autonomous Agricultural Navigation System' designed to automate agricultural tractors using GPS technology. This system aims to enhance the efficiency of hand tractors, which are commonly used but rely heavily on manual labor. AGROTIS integrates an RTK GPS unit, compass modules, microcontrollers, and actuators and features a unique multiple hand tractor mode compatible with various agricultural machinery.

Filrobotics Technologies won the TECH PLANTER in the Philippines for its innovative deep-tech approach, presenting a suitable agritech solution for an agricultural nation. The AGROTIS Navigation System has the potential for long-term, significant impact, aligning with the future of autonomous vehicles. The judges recognized the project's promise of transforming agriculture through automation.

Singapore: Altent Renewables

Singapore predominantly incinerates its wet waste, which poses a significant challenge due to the high costs associated with its treatment. Taking the top spot in the TECH PLANTER Singapore 2024, Altent Renewables has showcased its hydrothermal process that transforms wet waste into sustainable fuels and minerals. They proudly highlight their technology's distinctive approach of bypassing the energy-intensive drying process, an approach considered superior for extracting energy. With their initial proof of concept and the pilot plant scheduled on October 2024, the team has consistently demonstrated ambition and is recognized for their potential to expand further in the energy and sustainability sectors.

Malaysia: RAA Tech

RAA Tech, a spin-off company from Universiti Sains Malaysia (USM), stood out at the TECH PLAN Demo Day in Malaysia 2024 by winning three awards. Their pioneering self-healing natural rubber technology makes motorcycle and car tires puncture-proof, significantly enhancing durability and safety. This innovative approach incorporates advanced materials science, allowing tires to automatically repair small damages, thereby extending their lifespan and reducing waste. RAA Tech's technology earned them the Grand Winner Award, the TERAJU Award, and the Mitsui Chemicals Group Award, each comprising a RM4,000 cash prize, highlighting their contribution to sustainable and practical solutions in the automotive industry.

Vietnam: OpBre-AI

With the ambition of creating a meaningful impact on women's health worldwide, OpBre-AI has emerged as the grand winner in TECH PLANTER in Vietnam 2024 through providing early breast cancer screening.

They developed a transformative product through integrating polarized imaging and advanced AI algorithms to enable precise screening and classification of malignant breast cancer, a non-invasive screen solution through a harmless infrared light source with a quick response under 10 minutes. Given that this innovation might not be common in the current local context, the team proposes a new approach for the Vietnamese market.

They have recognized that, like women globally, Vietnamese women face financial constraints due to high screening costs, concerns about side effects, and lengthy wait times that impede their access to early testing. This deep understanding of their society has motivated the team to develop and implement solutions to tackle such obstacles for women.

Thailand: Osseolabs

With the high prevalence of osteoporosis and jaw/joint cancer and injury among the older population in Thailand, Osseolabs has addressed these problems by leveraging advanced technology such as 3D-printing, biomechanics, and AI. As they emerged as grand winners in the TECH PLANTER Thailand 2024, they have effectively addressed one of their country's most pressing issues, taking them one step closer to revolutionizing surgical outcomes worldwide through cutting-edge technology. The company showed promise as they offer complete personalization for patients along with assistive software that supports physicians in their operations, demonstrating their potential by consistently supporting the healthcare sector.

Indonesia: PT. Metafuse Rekacipta Indonesia

PT Metafuse Rekacipta Indonesia, the Tech Planter Indonesia 2024 Grand Winner, is pioneering Materium Direct Waste 3D Printing, producing 3D printers and parts capable of using plastic waste. With a vision of decentralized manufacturing for Indonesia, they aim to revolutionize plastic production, leveraging Indonesia's bustling retail market for plastic goods under IDR200k. The core technology, a unique pellet/waste extruder, allows the use of flaked plastic waste instead of just industrial pellets. This innovation addresses the critical issue of plastic circulation, potentially preventing the 2050 forecast of plastic outweighing fish in the ocean. Demonstrating robust local manufacturing, PT Metafuse showcases the nation's potential by developing technologies that utilize recycled plastics and create sustainable solutions.

These 6 Grand winners will compete with the 6 Leave a Nest Awardees of each country for the Tech Planter Asia Grand winner, another Tech Planter Asia Leave a Nest award, and also individual company awards! Get a glimpse of what deep tech startups Asia has to offer at Tech Planter Asia 2024 in Malaysia.

Leave a Nest

Celebrating a Decade of Innovation: Tech Planter in Malaysia's 10th Anniversary

10 ANNIVERSARY

2015–2024

Exploring Deep Tech & Solving Deep Issue
TECH PLANTER®
MALAYSIA

TECH PLANTER Malaysia recently marked its 10th anniversary, celebrating a decade of fostering innovation and entrepreneurship. The milestone event, held on May 18th, 2024, at RekaScape in Cyberjaya, brought together leading minds from the tech startup community, including 65 promising applicants narrowed down to nine exceptional finalists. This event was a testament to the remarkable growth and impact of Tech Planter Malaysia since its inception in 2015.

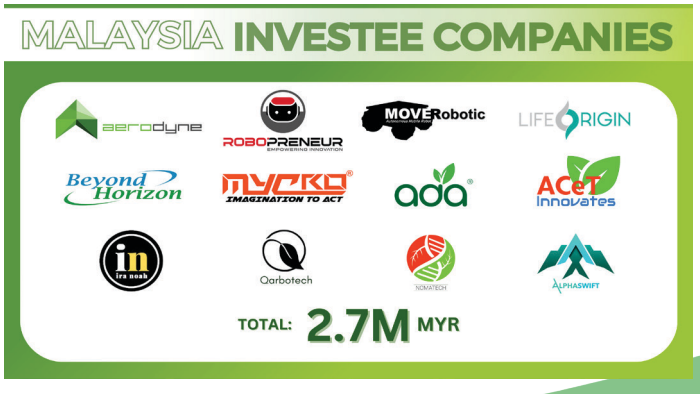
A Journey of Growth and Success

The first TECH PLANTER event in Malaysia in 2015 was a humble beginning, with only 13 applicants participating. Over the years, the program has seen exponential growth, now boasting 363 teams as alumni. Participants from 27 universities across Malaysia have showcased their groundbreaking ideas, reflecting the nation's vibrant innovation ecosystem.

TECH PLANTER has established numerous support systems and collaborations between Malaysian researcher teams and startups with partner companies both locally and internationally. This network has been instrumental in driving the success of Malaysian startups on the global stage.

Notable Achievements and Investments

In the past decade, TECH PLANTER has not only nurtured talent but has also made significant financial contributions to the Malaysian startup ecosystem. With an investment of RM 2.7 million across 12 Malaysian investee companies, the program has provided the much-needed financial support to bring innovative ideas to life. Additionally, over 40 partners have supported Tech Planter, playing a crucial role in the program's success and the trust placed by startups and researchers in Malaysia.



The 10th TECH PLANTER in Malaysia Highlights

The 10th anniversary event highlighted the creativity and ingenuity of the nine finalists of TECH PLANTER in Malaysia 2024, each presenting cutting-edge innovations to a distinguished panel of judges. The finalists included Ultimeat, LuFloc, Fav Food Industries, Tigasfera, Mizu NanoPaint, RAA Tech, UKMMedikSkru, A2Tech, and SpaceIn. These teams presented their core technologies, business models, and solutions to pressing issues, impressing both the judges and the audience.

Grand Winner: RAA Tech

RAA Tech, a spin-off company from Universiti Sains Malaysia (USM), emerged as the Grand Winner with their groundbreaking self-healing natural rubber technology, which makes motorcycle and car tires puncture-proof. RAA Tech received a financial reward of RM 7,000 and an exclusive invitation to pitch at the TECH PLANTER Asia Finals in August 2024. The team also received the TERAJU Award and the Mitsui Chemicals Group Award, each with an additional cash prize of RM 4,000. Esteemed judges from organizations such as Cradle Fund Sdn. Bhd., SDEC, pitchIN, TERAJU, JRE, Mitsui Chemicals, Real Tech Holdings, and Euglena Malaysia played a crucial role in evaluating the finalists and providing valuable feedback.

Other Notable Winners

SpaceIn

Awarded the Leave a Nest Award and Real Tech Holdings Award for their pico-satellite technology, securing RM 4,000 and an invitation to the TECH PLANTER Asia Finals.

LuFloc

Honored with the pitchIN Award and a RM 4,000 prize for their sustainable shrimp farming system.

Tigasfera

Received the SDEC Award and RM 4,000 for their waste-to-energy technology.

Ultimeat (M) Sdn. Bhd.

Awarded the East Japan Railway Award and RM 4,000 for their mycoprotein fermentation technology.

UKMMedikSkru

Recognized with the CRADLE Award for their bioactive medical screws.

Mizu NanoPaint

Secured the Euglena Award and business support consultation for their innovative heat-reflective paint.

A Decade of Impact

The success of TECH PLANTER Malaysia over the past decade is a testament to the unwavering support from its partners, the dedication of the startups, and the trust placed by researchers. The collaborative efforts have paved the way for groundbreaking innovations, transforming Malaysia's tech landscape and setting the stage for future advancements.

The TECH PLANTER journey is far from over. With the upcoming TECH PLANTER Asia Finals in August 2024, the program continues to provide a global platform for Malaysian startups to showcase their disruptive ideas and connect with industry leaders and potential investors. As we celebrate this 10th anniversary, it is essential to recognize the contributions of all partners, judges, and participants. Their unwavering support and collaboration have been the foundation of TECH PLANTER's success, enabling it to nurture and empower the next generation of tech innovators in Malaysia.

Visayas TECH PLANTER
Nurturing Deep Tech Innovation in the Visayas

by Joanna Marie Cua, B.A

Last August 10, 2024, the Visayas TECH PLANTER has successfully established itself as a cornerstone for deep tech innovation in the region. Recognizing the untapped potential of the Visayas, the initiative was launched to decentralize tech support and cultivate a thriving ecosystem for startups. Inspired by Japan's model of regional innovation hubs, the program has empowered local entrepreneurs and accelerated the growth of deep tech ventures.

Focus on Decentralized Support for Deep Tech Ecosystem

The Visayas TECH PLANTER is a strategic move to address the digital divide and promote inclusive growth. By fostering a vibrant tech community outside of Metro Manila, we aim to create more opportunities for Filipinos, stimulate regional economies, and tap into the unique challenges and solutions that arise from diverse geographic contexts.

Opportunities and Benefits for Participants

The Visayas TECH PLANTER has yielded impressive results, with participating teams achieving significant milestones. From potential collaborations to expanding market reach and creating new job opportunities, the program has demonstrated its effectiveness in transforming promising ideas into thriving businesses. As the initiative continues to evolve, future participants can anticipate even greater support, resources, and opportunities to turn their visions into reality.

In summary, the Visayas TECH PLANTER is set to be a landmark event in the Philippines' tech ecosystem, underscoring the importance of regional innovation and deep tech support. By leveraging a decentralized approach and fostering connections between local talent and industry leaders, this initiative aims to drive significant advancements in the region's technological landscape.

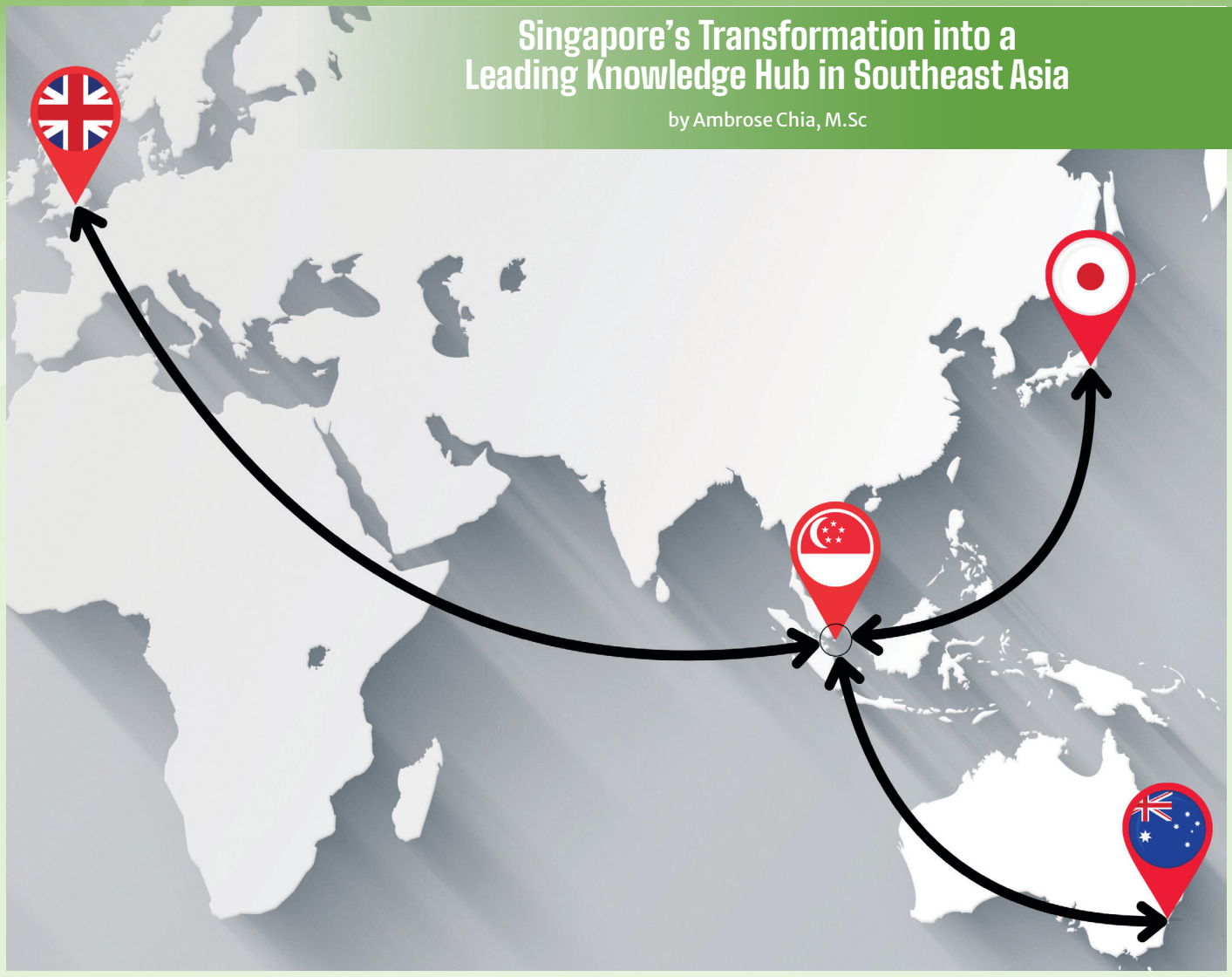
> ***"Together, let's build and strengthen our community to support regional startups to solve more local issues."***

The journey of innovation continues! We are thrilled to announce the second Visayas TECH PLANTER, set to take place in Cebu on August 9, 2025. Aspiring entrepreneurs and tech innovators are encouraged to register their interest through a Google Form link and QR Code:

https://bit.ly/VISAYASTECHPLANTER2025EarlyRegistration

Singapore's Transformation into a Leading Knowledge Hub in Southeast Asia

by Ambrose Chia, M.Sc



Singapore has long been known as a strategic maritime hub for trade in Southeast Asia. However, in recent decades, the country has successfully shifted its role to become a leading knowledge hub in the region. This transformation has been driven by Singapore's strong academic and research sectors, which have attracted top talent and investment from around the world.

One of Singapore's key strengths as a knowledge hub is its world-class universities. The National University of Singapore (NUS) and Nanyang Technological University (NTU) are consistently ranked among the best in the world, particularly for their postgraduate and research programs. Leave a Nest Singapore has leveraged this to work with higher institutions to nurture young researchers through research grants and providing opportunities through the TECH PLANTER platform to accelerate deep technology startups from universities.

In addition to its universities, Singapore is home to numerous research centres and institutes. Leave a Nest Singapore supports Japanese corporations in setting up R&D facilities in Singapore. Many large corporations, such as Procter & Gamble, Rolls-Royce, and HP, have established research facilities within NUS and NTU to take advantage of the high-quality researchers and resources available. The country also hosts independent research organisations such as the Agency for Science, Technology and Research (A*STAR), creating a thriving ecosystem for innovation and collaboration.
One notable example of successful collaboration is the SMART Centre, a research enterprise established by the Massachusetts Institute of Technology (MIT) in partnership with the National Research Foundation of Singapore. SMART has produced groundbreaking innovations, demonstrating the potential for Singapore to serve as a hub for cutting-edge research and development.

Singapore's favourable business policies and ease of incorporation have attracted companies seeking to commercialise their research and development. Many multinational corporations have established regional headquarters in Singapore, further cementing the country's status as a knowledge and innovation centre. Singapore's maritime and air logistics hub ensures researchers have easy access to equipment and resources from around the globe.

Singapore's transformation into a knowledge hub has made it an attractive gateway for companies looking to expand internationally. Leave a Nest Singapore aims to utilise the geographical and environmental conditions to connect Singapore to Japan, the UK, and Australia, creating a new exchange of knowledge across these countries to solve deep issues collectively.

Malaysia:
A Strategic Manufacturing Hub in the Heart of Southeast Asia

by Hadi Akbar Dahlan, Ph.D

Malaysia, strategically located in Southeast Asia between the burgeoning economies of China and India, has long been recognized as a pivotal player in the global manufacturing landscape.The country's well-developed infrastructure, including extensive port facilities, efficient logistics networks, and modern industrial parks, enhances its appeal as a manufacturing destination. Both government agencies and the private sector contribute to Malaysia's role as a manufacturing hub.

The private sector in Malaysia has been a key driver of the country's manufacturing success, with significant contributions from various industries:

1. **Electronics and Electrical (E&E) Industry:** Malaysia is renowned for its E&E industry, which accounts for a substantial portion of the country's manufacturing exports. Global giants such as Intel, Sony, and Panasonic have established manufacturing plants in Malaysia, benefiting from the skilled workforce and robust supply chain networks. The Penang Free Trade Zone, often dubbed the "Silicon Valley of the East," is a testament to Malaysia's prowess in this sector.

2. **Automotive Industry:** The automotive sector is another area where Malaysia excels. Proton and Perodua, the country's national car manufacturers, have made significant strides in both domestic and international markets. Additionally, global automotive companies like Toyota and Honda have established manufacturing bases in Malaysia, attracted by the country's competitive production costs and strategic location.

3. **Palm Oil and Agro-based Industries:** Malaysia is one of the world's largest producers and exporters of palm oil, a critical ingredient in various consumer goods. The palm oil industry has spurred the growth of downstream manufacturing activities, including oleochemicals, biodiesel, and food processing. Government agencies such as the Malaysian Palm Oil Board (MPOB) play a crucial role in supporting this industry through research, development, and regulatory oversight.

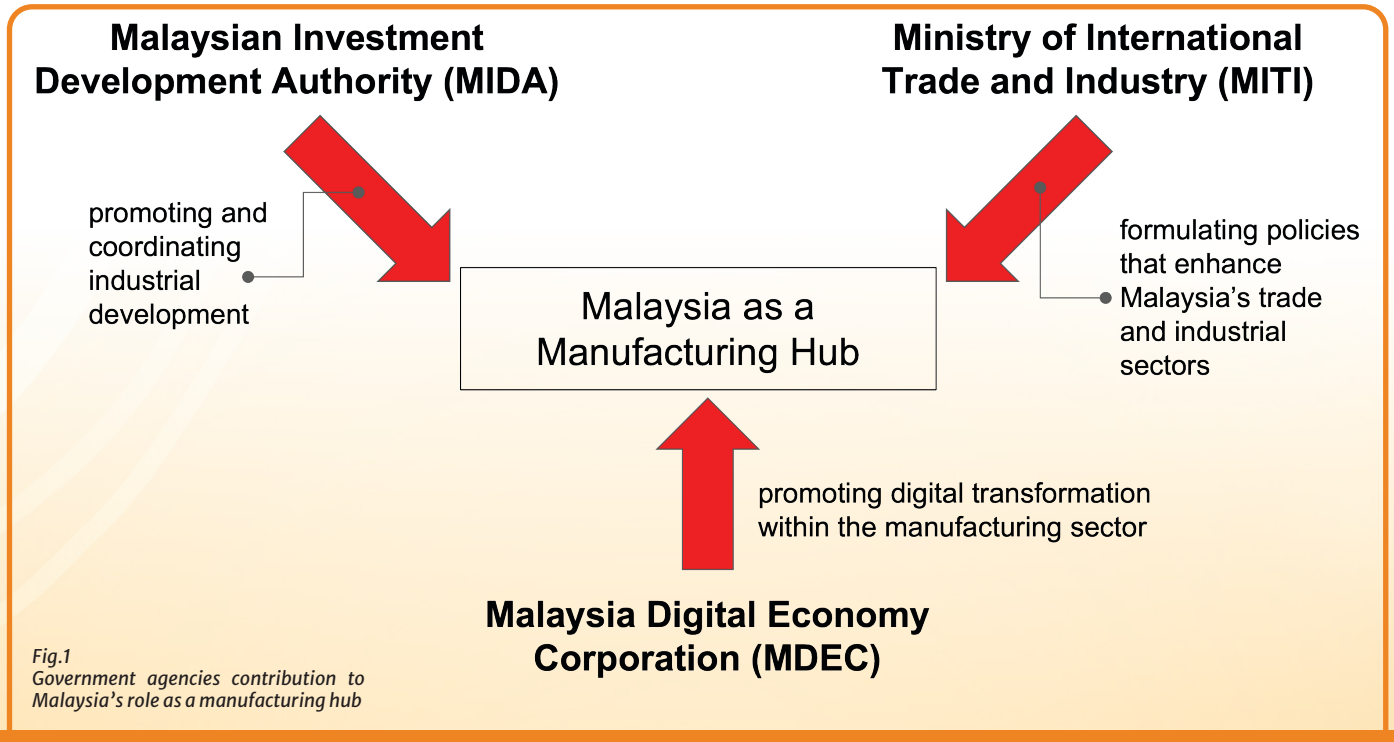


Fig.1
Government agencies contribution to Malaysia's role as a manufacturing hub

Malaysia's role as a manufacturing hub is a testament to its strategic location, robust infrastructure, and supportive government policies – and Leave a Nest Malaysia positions itself within the Leave a Nest Group as such. The concerted efforts of government agencies along with the dynamic contributions of the private sector, have established Malaysia as a key player in the global manufacturing landscape. By addressing challenges and embracing future opportunities, Malaysia can continue to thrive as a manufacturing powerhouse in the years to come.

The Philippines as a Test Bed of Technologies: "We Can All Start Here"

by Edilyn Grace Odero, B.Sc

The Philippines, recognized as an emerging market in Southeast Asia and the Pacific, is becoming an increasingly attractive economy. Asian Development Bank Philippine Country Director Kelly Bird said the Philippine economy demonstrated a solid growth momentum and resilience in 2022, which is anticipated to continue in 2023, with GDP growth heading towards its longer-term growth rate of 6%. However, even with this level of economic growth, the Philippines is still lagging behind in terms of science and technology, which includes its support for startups, ranking 59 out of 100 countries in 2023 based on the Global Startup Ecosystem Index.

Project SET: Scholars Entrepreneurship Training is a 10-month program, developed in collaboration between the DOST-SEI and the Leave a Nest Group. It aims to equip DOST-SEI scholars with a researcher-entrepreneur mindset, ensuring their solutions to Philippine issues become clearer as the program progresses.

Even with this, the startup ecosystem in the Philippines is actively shaping its identity and building a strong foundation. Improvement was seen in recent years following the Startup Innovation Act in 2019, which provided incentives and a streamlined process for starting a business. Both private and government institutions are providing substantial support, including initiatives from University Technology Business Incubators (TBIs), the Department of Trade and Industry (DTI), and the Department of Information and Communications Technology (DICT). This confluence of support and resources makes it a fertile ground for new discoveries and opportunities.

However, due to the relatively young status of the startup and deep technology ecosystem of the country, as well as the diverse range of issues that have yet to be solved, the Leave a Nest Group positions the Philippines as a place to test new technologies, both locally and globally. In the first place, researchers and deep technology startups in the country are also trying to see if their technology works, and are also in the mindset of "trying out new things" and "making mistakes" - and this kind of stage and mindset would be also ideal for innovators from other more technologically developed countries to try and also bring their technologies to the country in the form of Proof-of Concept (POC) projects through collaboration with local startups or academic and research institutions. Looking at the whole picture, the Philippines, compared to other countries where Leave a Nest has offices in, is the most nascent and most flexible when it comes to creating technologies and deep tech businesses, and would be strategically the best place for everyone to start in, no matter where they are from.

Tech Planter in the Philippines has shown the diverse level of startups in the whole country.

The first regional Tech Planter outside Japan, VISAYAS Tech Planter has further shown the nascent nature of the deep tech and startup ecosystem in other parts of the country.

SCENT (Science Entrepreneurship Training) Program reveals the great energy that young innovators can showcase to be able to create solutions for issues in the Philippines.

Seventeen companies, selected from 51, have been selected for adoption! Acceleration of business development in Southeast Asia

Recently, while the major countries of Southeast Asia have achieved sustained growth, various social issues have started to emerge due to the rapid social changes accompanying economic growth. In order to support Japanese start-ups with solutions to these social issues to solve them and develop their businesses in collaboration with local organizations, last June to July 2024 applications from companies willing to solve social issues and create local businesses in the region were recruited. The number of entries received was 51, and among this 24 companies were interviewed after screening by the Ministry of Economy, Trade and Industry, AMEICC, AOTS and Leave a Nest Co., Ltd., and external screening and evaluation by Mizuho Bank Ltd, HIROGIN GLOBAL CONSULTING PTE. LTD., and the Japan Finance Corporation. Finally, 17 companies were selected for support.

*This programme is being implemented following the adoption of an open call for proposals for a project to promote overseas development by Japanese start-ups through collaboration with Southeast Asian companies, which is being implemented by the ASEAN-Japan Economic and Industrial Cooperation Committee (AMEICC).

Startups accepted into the program

IntegriCulture Inc.

IntegriCulture

THEME
World's first egg yolk placenta-derived cell culture cosmetics

Aiming to expand the anti-ageing market by blending the world's first and hen egg-derived cell culture supernatant liquid cosmetic ingredient 'CeraMent', derived from cell culture research, in skincare products

Aiming for animal welfare and environmental burden reduction effects in cosmetics, which are subject to economic stimulation and increased individual consumption due to the maturity of the population age, and encouraging companies in ASEAN countries to achieve their SDGs targets

https://integriculture.com/

Sydecas Inc.

NinjaFoods

THEME
Building a sustainable next-generation food supply chain

Texture engineering technology based on traditional Japanese technology to control dietary fibre derived from konnyaku potato and substitute sugar, fat, gluten, etc. to achieve low-sugar and low-fat confectionery and cultured meat

Building a sustainable supply chain with Halal compliance for global expansion.

https://ninjafoods.jp/

Innoqua Inc.

INNOQUA

THEME
Innoqua Coral Project

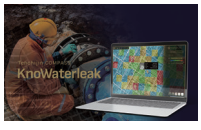
Coral reefs, widely distributed in South-East Asia, are biodiversity hotspots where 25% of marine species live, but more than 70% of corals are predicted to die by 2040 Aim to balance reef conservation and economy through R&D and education in collaboration with the ASEAN region.

https://corp.innoqua.jp/

Tenchijin Inc.

Tenchijin
SPACE TECHNOLOGIES

THEME
KnoWaterleak



It is an underground water pipeline leakage risk assessment work system that uses multimodal AI to analyse datasets combining earth observation satellite data, water pipeline data, leakage history data, etc. to assess the risk of leakage for each area within the target broad area.

https://tenchijin.co.jp/

manebi inc.

manebi

THEME
AI and human accompaniment support for the DX of employee training in the manufacturing industry

Aims to break away from the gentrification of educational leaders and inefficient learning situations through advanced learning support functions are provided by AI, including the provision of Japanese knowledge, digitalisation of on-the-job training, automatic creation of educational courses and programmes, automatic translation and bot support for usage.

https://manebi.co.jp/

ICOMA Inc.

ICOMA

THEME
Mass production in Thailand of the "Tatamel Bike", a folding electric bike from Japan

In recent years, Japanese hobby content has become increasingly popular in Thailand and the motorbike market is large. Our company is developing a well-designed EV motorbike with a hobby-like spread, created by toy designer Ikoma. We are currently in talks with an electric motorbike factory in Thailand and would like to accelerate local production, sales and global export business.

https://www.icoma.co.jp/

CoLife Co., Ltd.

CoLife
株式会社コーライフ

THEME
OS in the home and provision of quality home services

In the housing industry, which is accelerating towards stockholding, the 'owner relationship management' concept connects housing providers and residents, providing an 'operating system' and 'home services' to manage data, and through this we aim to create high-quality housing and living infrastructure.

https://www.colife.co.jp/

scheme verge, Inc.

scheme verge

THEME
Reinventing cities

With the world's largest cities, Japan's urban engineering is used to solve the world's megacity problems, and we use digital technology to support city planning through the use of smart cities.

https://www.schemeverge.com/

Mentoring by Communicators

- Support by local company representatives and those in charge of negotiations with foreign companies, governments, etc.
- Regular individual mentoring to clarify issues, organize problem-solving processes, overseas expansion strategies, alliance strategies with major local companies, government agencies, etc., and research on various laws and regulations when considering collaboration with local institutions.

Provision of Information on Local Issues and Needs

In order to gain a concrete understanding of social issues and business models in Singapore, Thailand, and Malaysia with a view to developing specific local businesses, and to provide hints for collaboration and partnerships - with the information provided below, we hope that local stakeholders like you would be able to share local issues and needs to them as well.

Coordination of Individual Interviews with Southeast Asian Companies and Institutions

Leave a Nest coordinates meetings with local organizations to search for local partners in Singapore, Thailand, and Malaysia in the countries which the Japanese ventures wish to establish a presence. We also attend and support the meetings as necessary, and provide support in improving the content of the discussions - so if you are interested in partnering with the companies below please contact us.

- Local conglomerates and other major companies
- Local start-ups
- Government officials
- Local incubators/accelerators
- Local university researchers
- Other necessary partners

Thinker Inc.

THEME

Development and sale of proximity sensing sensors and robot hands

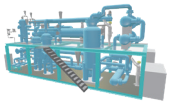
The aim is to innovate collaborative robotics with a 'thinking robot hand at your fingertips' that compensates for the last one inch to the workpiece by using a proximity sensor that can grasp the position and shape of the object non-contact and at high speed, rather than relying solely on a camera.

https://www.thinker-robotics.co.jp/

Tsubame BHB Co., Ltd.

THEME

Unique ammonia synthesis technology to contribute to decarbonisation and food



Aims to achieve supply chain risk hedging and transport cost reductions through decentralised ammonia production, utilising a unique catalyst capable of producing ammonia at low temperature and low pressure, and reduce the cost of large-scale ammonia production, both of which contribute to decarbonisation.

https://tsubame-bhb.co.jp

REVOX, Inc.

THEME

Contribute to the realisation of a sustainable society by expanding the use of digital light sources worldwide, which can be used for a variety of applications

Replacing analogue light sources, which are essential for inspection, heating and exposure of semiconductor processes, with energy-efficient digital light sources will reduce power consumption, greenhouse gas emissions and waste, and make more effective use of resources, contributing to the realisation of a sustainable society.

https://www.revox.jp/

ugo, Inc.

THEME

Business DX robot 'ugo'

The business DX robot 'ugo' is a hybrid control robot with autonomous driving functions and remote control. It automatically patrols office building security and data centre meter inspections, enabling essential services to be DXed and productivity to be improved.

https://ugo.plus/

Life is Tech, Inc.

THEME

Expansion of online programming materials for secondary schools to Malaysia

Aims to introduce online teaching materials (Life's Tech Lessons) for local governments and schools, which have the No.1 market share in Japan, to public and private (inter and bilingual) secondary schools and high schools in Malaysia.

https://life-is-tech.com/

LabBase, Inc.

THEME

Asia expansion of the research empowerment platform LabBase

Aims to expand the research empowerment platform LabBase, which has approximately 50% of science graduate students registered in Japan, to other Asian countries and provide value to top researchers, as well as strengthen connections in the Asian research region, where research talent is increasing, and contribute to improving the research capabilities of Japan and other countries.

https://labbase.co.jp/

TBM Co., Ltd.

THEME

Sustainability revolution with LIMEX, a new environmentally friendly material

LIMEX, a new environmentally friendly material based on calcium carbonate (limestone), can be used to replace plastic and paper. Replacing plastic and paper with LIMEX can help conserve depleting resources such as oil, water and wood, and contribute to the reduction of greenhouse gas emissions

https://tb-m.com/

Tensor Energy Inc.

THEME

'Tensor Cloud' to support renewable energy projects.

Tensor Cloud, a cloud solution for renewable energy generators, providing an operating system in the cloud, optimised for individual power plants and storage batteries, enabling the orchestration of countless power plants and storage batteries, and the people and companies that shape the power generation business. By centralising, optimising and automating the operations of renewable energy projects, it aims to support explosive growth and create a world where sustainable power is delivered when and where it is needed.

https://www.tensorenergy.jp/

Flare Inc.

THEME

Driving dynamics analysis of cars and motorbikes on smartphones

In Thailand, which has the highest traffic accident fatality rate in Asia, the driving habits of car and motorbike drivers are analysed and scored using only a smartphone application, and incentives are given according to the ratings or appropriate driving education content is provided to drivers to improve their driving.

https://corp.flare.run/ja/

Tech Venture Meet Up. Does it Work?

The **Tech Venture Meetup** (**TVMU**) organized by Leave a Nest is an initiative aimed at fostering collaboration and growth within the deep-tech startup ecosystem in Southeast Asia. This program builds upon the foundations laid by the **TECH PLANTER** program, which has been running since 2014 and now includes over 1370 teams.

History and Purpose

The TVMU serves as a platform where startups, venture capitalists, angel investors, corporate partners, and government agencies can come together to explore funding opportunities, potential collaborations, and support mechanisms for deep-tech ventures. It is particularly focused on facilitating the scale-up of startups that have demonstrated potential and are ready to move to the next phase of growth. Here are some success stories of **TVMU**:

Success Stories of TVMU

Malaysia Startups: Qarbotech and Ajinomoto

At the Tech Venture Meetup (TVMU) 2024, Malaysian agritech startup Qarbotech met with Ajinomoto Japan, leading to potential collaboration. Ajinomoto showed interest in Qarbotech's QarboGrow, a nanotech solution to enhance crop yields by optimizing light absorption. This meeting, facilitated by Qarbotech's participation in Leave a Nest's Tech Planter program, highlights their growing influence and alignment with Ajinomoto's sustainability goals. Qarbotech has raised $700K from investors like 500 Global and Temasek Foundation.

Contact the Project Lead for More Information!

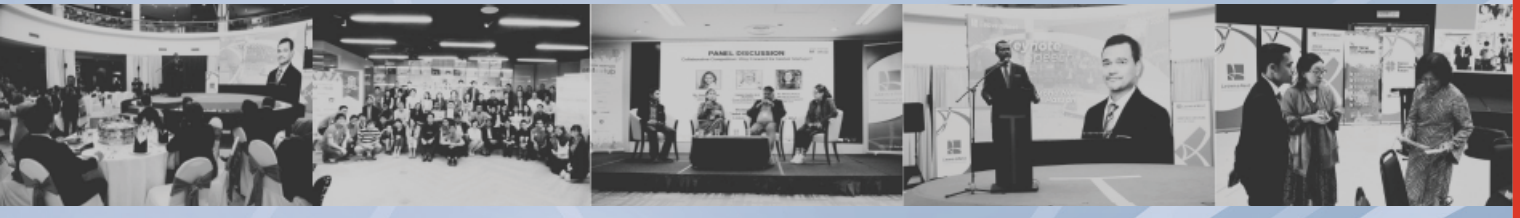
Contact: mahirah@lne.st

Singapore Startups: UntroD and Dr. Wei Jiang

Leave a Nest met CEO Dr. Wei Jiang during a National Additive Manufacturing Innovation Cluster (NAMIC) event. The company debuted at TVMU 2023, joined Leave a Nest's ecosystem, and pitched at the event. After networking with various stakeholders, they joined TECH PLANTER Singapore 2024, becoming one of the 9 finalists and winning the UntroD Capital Asia Award. They are now discussing prototype improvements with Leave a Nest's super factories in Japan

Philippine Startups: SolX Technologies and TrackerHero

At TVMU 2024 in Malaysia, Mr. Sergius Angelo Santos met with TrackerHero and SolX Technologies, which won Deep Tech Venture of the Year 2024. Recognizing their similar market focus, they explored collaboration opportunities to leverage their strengths, expand market reach, and exchange technological expertise. This partnership aims to support each other's market expansion and potentially develop new products or services together.



Startups journeys do not end with Tech Planter. As the deep tech startup grows, their challenges and opportunities change and that is what TVMU is here for. If you are interested in being part of the event please register or contact the email of the Project Lead of the corresponding countries TVMU! See you there and we look forward to **Meeting Up**!

2717-5553