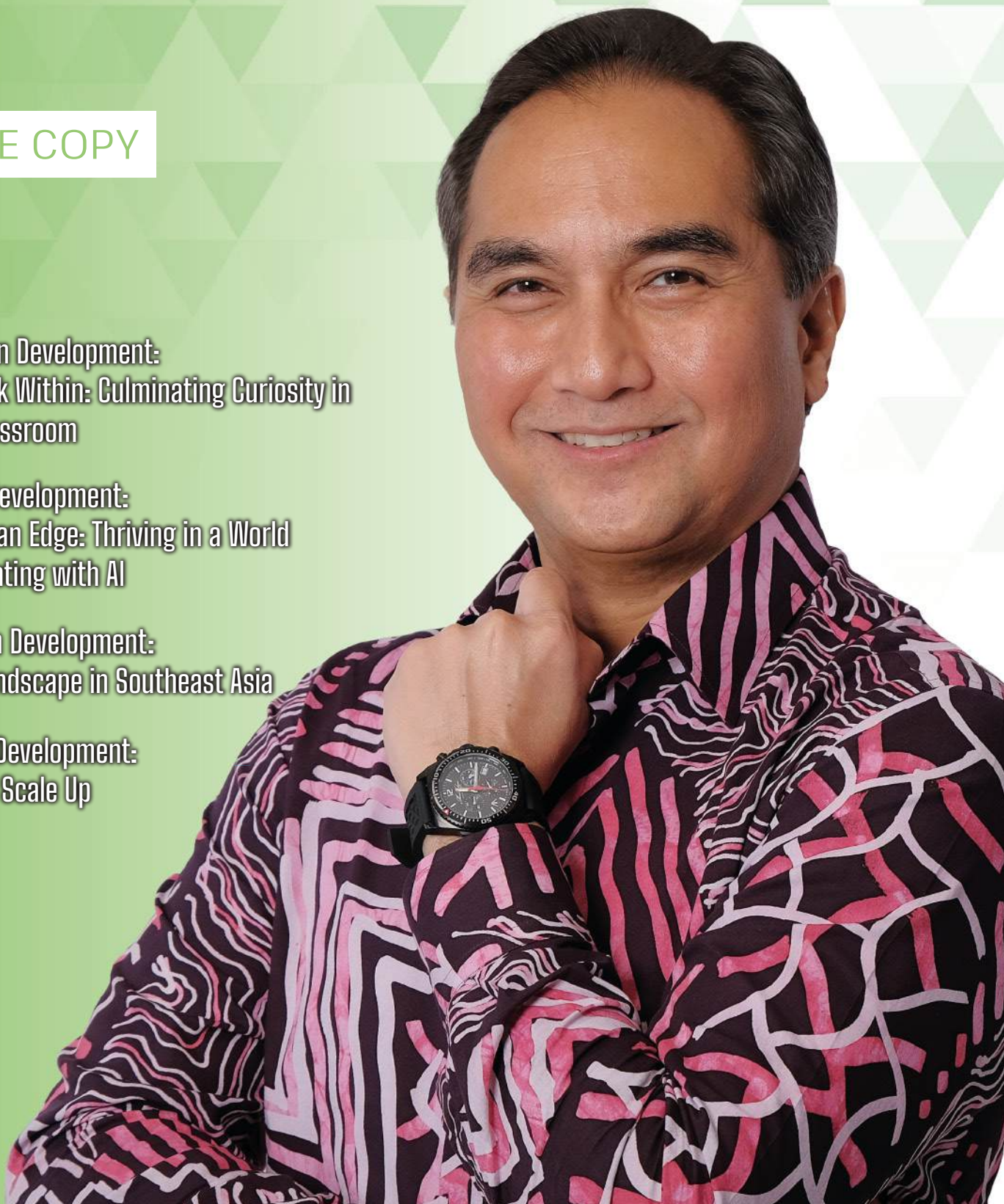
Knowledge Manufacturing with Researchers, Startups, Corporations and Educators

Nest Garage

2025.12
VOL.27

FREE COPY



Education Development:
The Spark Within: Culminating Curiosity in Every Classroom

Human Development:
The Human Edge: Thriving in a World Collaborating with AI

Research Development:
Grant Landscape in Southeast Asia

Frontier Development:
Regional Scale Up

Nest Garage
2025.12.VOL.27
Leave a Nest

ED Education Development

HD Human Development

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
2025.12.VOL.27
Leave a Nest

RESEARCH & FRONTIER DEVELOPMENT

ON THE COVER

Mr. Junady Nawawi

Chief Executive Officer, TERAJU

Mr. Junady Nawawi, with over 25 years of leadership in government-linked companies, is a key figure in Malaysia's Bumiputera entrepreneurial ecosystem. As TERAJU's CEO, he drives economic empowerment, fosters innovation, and positions the organisation as a catalyst for transformative national development and sustainable business growth.

RD Research Development

FD Frontier Development

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

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

ASIAN ECOSYSTEM PARTNERS

SINGAPORE/THAILAND

CHULA ENGINEERING

INNOVATE 360

KU KASETSART UNIVERSITY

iNT POWER OF MAHIDOL INNOVATION

KNOWLEDGE XCHANGE

YUSARN AUDREY

NSTDA

NIA สำนักงานนวัตกรรมแห่งชาติ

VISUP VISUP COMPANY LIMITED

MALAYSIA/INDONESIA

CYBERVIEW

MPOB

MRANTI

MTDC MALAYSIAN TECHNOLOGY DEVELOPMENT CORPORATION

SDEC Digitalising Sarawak

TERAJU PENERAJU BUMIPUTERA

Kementerian Perindustrian Republik Indonesia

IMU UNIVERSITY

MMU MULTIMEDIA UNIVERSITY

TAYLOR'S UNIVERSITY Wisdom • Integrity • Excellence

Universiti Kebangsaan Malaysia The National University of Malaysia

Naratif Baharu UKM Universiti Watan Kita

Universiti Malaya

UPM Universiti Putra Malaysia

USM Universiti Sains Malaysia

APEX

UTM Universiti Teknologi Malaysia

BINUS UNIVERSITY

Institut Teknologi Bandung

LMFEB Pusat Studi Manajemen dan Bisnis FEB UNPAD

Sekolah Tinta Rendah & Menengah

PHILIPPINES/VIETNAM

BSSC

NDC National Development Company Enabling the future.

Ateneo de Manila University

Ateneo Intellectual Property Office

CDO bites

KWADRA TBI ISAT U | DOST - PCIEERD

MAPÚA UNIVERSITY

TDT Dai Hoc Ton Duc Thang University

Curiosity gets real when students run the experiment themselves. These young scientists aren't just learning—they're discovering.

Hands-on activities let them explore a world of wonder. With every challenge, students become more excited to learn science.

With guidance from real researchers, students are inspired and equipped to become exciting young scientists themselves.

THE SPARK WITHIN: CULTIVATING CURIOSITY IN EVERY CLASSROOM

Across Southeast Asia, a new generation of learners is stepping beyond the classroom. They explore their world through hands-on science, inquiry-led projects, and curiosity-driven discovery, from students building low-cost earthquake simulators in bamboo sheds to schools in Terengganu that blend faith with innovation. These stories reflect a growing shift in the region, where schools meet learners where they are, encourage questions, and support experimentation even when resources are limited. They show that learning becomes more meaningful when it is experienced, not memorised.

y an important role in strengthening this movement. Many model lifelong learning, bring real-world challenges into their classrooms, and integrate local culture into STEM to make lessons more relevant. Their students respond by developing bold ideas and practical solutions that benefit their communities. At the centre of these stories is a shared mindset: science is not only a subject, but a tool to understand and improve the world around them. This issue reflects our commitment to nurturing learning environments where curiosity leads, exploration is welcomed, and failure is part of the journey.

We invite you to discover how imagination, mentorship, and community are shaping Southeast Asia's next young innovators.

CURIOSITY IS CONTAGIOUS: HOW TEACHERS SHAPE THE FUTURE OF RESEARCH

By Edriel Lee, BSc

Leave a Nest has long organized science and research initiatives for secondary school students across Southeast Asia. From these experiences, we've observed that student research in the region, especially in the Philippines, often focuses on solving social issues rather than pursuing discovery for its own sake. To understand this better, I spoke with Ms. Jamie Ann Aumentado, a research teacher from Caloocan National Science and Technology High School and an MS Biology student at the University of the Philippines Diliman (UPD). Our discussion revealed how teachers who live the spirit of research shape the next generation of researchers.

Ms. Aumentado's path into research was not straightforward. Fresh out of college, with limited experience, she was unexpectedly assigned to teach research at a science high school. "I prayed for courage every day," she recalled, describing how her science-oriented and highly driven students pushed her to grow and stay one step ahead. "They were so advanced; I had to challenge myself to keep up," she shared. Believing that "you cannot give what you don't have," this experience became her turning point to pursue further studies in order to deepen her expertise and become a better mentor for her students.

At the UPD Institute of Biology, Ms. Aumentado is part of the Integrative Research Laboratory (IRL), which holistically develops Filipino students through interdisciplinary training in science, arts, and innovation across three key areas: immunopharmacology, science communication and social impact, and product and process development. Her exposure to this environment has broadened her view of science and education. "Delving deeper into research made me realize the realities of doing research in our country — the constraints in facilities, funding, and opportunities," she said. This awareness helps her empathize with her students' challenges and drives her to support them where it truly matters. These experiences have also taught her flexibility and resourcefulness, reminding her of the importance of contributing despite such limitations.

Balancing her roles as a teacher and graduate student reshaped her understanding of learning. “Seeing things from both sides,” Ms. Aumentado realized that research is not merely a subject to be taught, but a way of thinking. She uses research-based teaching methods to explain abstract concepts like the central dogma, helping students visualize mechanisms through simulations. When discussing research design, she uses real-life examples to make complex ideas more accessible.

Moreover, Ms. Aumentado encourages her students to pursue self-directed learning and explore topics aligned with their interests. Emphasizing curiosity as a fundamental trait of a researcher, she said she tries to “give them the freedom to explore even if they don’t have prior background.” Some of her students, for instance, have learned to apply coding skills to analyze in silico data. This shows that, when given a safe space, young learners can discover their own potential.

Many of her students’ research projects stem from the same curiosity and passion, often drawing inspiration from their communities and experiences. Under her guidance, students have worked on biological assays, toxicity testing, phytoremediation, natural products, and related topics. She trains them in on-the-spot research proposal making and encourages them to address societal and environmental issues such as pollution, climate change, and disaster risk reduction through their STEM knowledge. These efforts have led students to develop creative and innovative prototypes. “Students often turn their exposure into purpose,” she said. By fostering this environment, Ms. Aumentado transforms her classroom into a space of inquiry where students learn to think critically and independently rather than simply receive instruction.

As she shared her stories, it became clear that the same curiosity she nurtures in her students also drives her own growth as an educator and researcher. “Research isn’t just for scientists or academics,” she reflected. “It’s a skill that improves critical thinking, fosters personal growth, and is essential in the 21st century.” While research can feel daunting for teachers unfamiliar with it, she emphasized that it is simply the process of asking questions and seeking answers. “At the end of the day,” she said, “every spark of curiosity, every question asked in the day-to-day, and the process of figuring out the answer are already forms of research.”

Curiosity is contagious. When educators embody the same passion to question and discover, students mirror that drive. To nurture future researchers who strive for positive change, teachers too must practice research and have that same mindset. Through this spirit, educators continue to grow as professionals while helping shape the next generation of researchers.

IMTIAZ SCHOOL: INTEGRATING CULTURE AND SCIENCE TO SHAPE FUTURE RESEARCHERS

By Ahmad Zaim Hussin BEng

In Kemaman, Terengganu, Imtiaz School represents a new model of education that unites faith and innovation to nurture the next generation of thinkers. The school's vision is to produce Ulul Albab students, individuals with intellect and adab (moral and spiritual discipline) shaped through three pillars: Quranic, Encyclopedic and Ijtihadic. These elements aim to develop learners who not only excel academically but also possess strong character, curiosity and the ability to contribute to society. To understand this approach further, we interviewed Teacher Muhammad Hafizuddin MohamadRuslan, an Innovation Teacher and alumnus of Imtiaz School.

Cultivating Curiosity Through Innovation

For Teacher Hafiz, curiosity is the foundation of a research-minded learner. At Imtiaz, students are introduced to the innovation syllabus as early as Form 1. This is a unique Innovation syllabus under the School Enrichment Module (SEM) that provides them with early exposure to problem analysis, creative thinking, and prototype development. Students are encouraged to identify issues within their surroundings, analyse the causes and design solutions that are practical and meaningful.

Through this process, students have developed ideas such as a smart physiotherapy device that supports finger rehabilitation and improves hand mobility for stroke patients. The idea began as a simple classroom project but later evolved through consultations with university experts and continuous refinement. This project, along with others, has received recognition at national and international levels, including competitions in China and Korea. Recently, the team also won the MMU Oral Award at Science Castle in Asia 2025, signalling the growing capabilities of Imtiaz's young researchers.

Behind these achievements is a strong culture of teamwork and mentorship. Teacher Hafiz explained that teachers serve as facilitators, allowing students to lead their own projects while guiding them through research discussions and collaborations with nearby universities such as Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA) and University College TATI (UCTATI). These collaborations expose students to university labs, scientific advisors and industry perspectives, offering valuable insights that strengthen their ideas. This approach builds independence, sharpens analytical skills and gives students the confidence to present and defend their ideas effectively.

Integrating Faith and Science in Contributing to Society

What distinguishes Imtiaz is its commitment to cultivating the Quranic, Encyclopedic and Ijtihadic qualities in every student. The school integrates Islamic values with scientific knowledge through classroom discussions that emphasise the relationship between science and the Quran. Students are encouraged to explore how concepts such as light, water and human creation are explained from both scientific and Quranic perspectives in class. This does not replace scientific learning but enriches it, allowing students to see knowledge as interconnected and purposeful.

The balanced understanding students gain is then applied to real-world problem-solving through innovation projects. By grounding their scientific work in values they believe in, students develop stronger motivation and a sense of responsibility in their research. This approach strengthens their scientific thinking, deepens their faith, and encourages them to contribute meaningfully to the community.

Inspiring a New Model of Learning

During the interview, Teacher Hafiz also shared for those thatschools hoping to build similar innovation teams can start with small, manageable steps. Beginning with school-level activities and gradually connecting with local universities or industry, such as Leave a Nest that can provide a strong foundation. What is more important is the consistency of effort in building students' confidence, communication skills and curiosity. Regular participation in innovation programs, even on a small scale, helps students become more resilient, independent and prepared for larger challenges.

This also highlights the importance of embedding local culture and core principles within science education. When students explore scientific ideas through values they recognise and understand, learning becomes more meaningful and engaging. This approach helps them relate scientific concepts to real life, deepening their sense of purpose and encouraging them to think creatively about how they can contribute to society.

"Start small, find the right circle, and continue with consistent effort. That is how innovation culture grows in schools."

-Teacher Hafizuddin Ruslan-

Through this approach, Imtiaz has shown how they are shaping a new generation of learners who view knowledge not simply as information to memorise but as a lifelong journey of discovery, contribution and faith. The school's integration of culture, science and values serves as an inspiring model for other institutions, especially in preparing students to face a rapidly changing world with confidence, integrity and curiosity.

NEXT GENERATION RESEARCH IN SINGAPORE: KEY TRENDS SHAPING THE FUTURE

By Haruka Sakurai, Msc

Research with Purpose

Research in Singapore is increasingly becoming mission driven. Scientists and engineers are focusing on solving real challenges that affect everyday life, from improving healthcare for an aging population to developing clean energy and building sustainable cities. This approach ensures that scientific progress translates into tangible benefits for society and creates valuable opportunities for young researchers to participate in impactful work.

A Vibrant Innovation Ecosystem

Singapore continues to nurture a vibrant innovation ecosystem. Universities, startups, and industries are collaborating closely to transform ideas into practical solutions. Programs, scholarships, and mentorship initiatives support young people as they explore pathways in research and innovation, strengthening the nation's overall scientific landscape.

One example, Nanyang Technological University (NTU) provides a clear example of university industry collaboration in action. The university lists multiple "Corporate Labs" launched in cooperation with industry partners. For example, a joint lab with Alibaba Group to advance green digital technologies, a partnership with ExxonMobil for low carbon solutions and another with Volvo on autonomous electric buses.

These labs show how NTU researchers and students can work on real industry relevant challenges, not just purely academic questions. That bridges the "lab to market" gap and offers concrete opportunities for young researchers.

Big Investments, Bold Vision

The Singapore government invests heavily in research, committing about 1% of the nation's GDP, or roughly S$25 billion over five years, to R&D. This strong support reflects a clear national vision that innovation will power the country's future. Strategic areas such as artificial intelligence, sustainability, health sciences, and advanced manufacturing receive top priority, providing students and researchers with many opportunities to contribute to meaningful projects.

For students who want to be part of Singapore's growing research scene, the best way to start is by getting involved early. Join your school or university research clubs, apply for science fairs. Explore internships or mentorships that let you experience what innovation looks like up close.

LEAVE A NEST MALAYSIA MARKS HISTORIC MILESTONE WITH SCIENCE CASTLE ASIA 2025 — ASIA'S LARGEST YOUTH RESEARCH CONFERENCE

The halls of Multimedia University (MMU), Cyberjaya, were filled with energy and innovation as over 2,000 students, educators, researchers, and industry partners gathered for Science Castle Asia 2025 (SCAsia2025), the largest youth research conference in Asia.

Hosted by Leave a Nest Malaysia Sdn. Bhd. and endorsed by the Ministry of Education Malaysia (MOE), the event showcased 321 student research projects from 10 countries, all united by the goal of using science and technology to solve real-world challenges. The opening ceremony was graced by H.E. Shikata Noriyuki, Ambassador of Japan to Malaysia, and H.E. Maria Angela A. Ponce, Ambassador of the Philippines to Malaysia, highlighting the conference's growing international stature.

A Decade of Youth-Driven Innovation

Since its launch in Japan in 2012 and expansion to Malaysia in 2017, Science Castle has evolved into Asia's leading youth research platform, connecting students with universities and industries. This year's Asia-level conference brought together young innovators from Japan, Malaysia, Singapore, Indonesia, Thailand, the Philippines, Vietnam, India, Russia, and Myanmar, celebrating collaboration across borders.

Keynote speaker Dr. Joe Inoue, Chief Culture Officer of Leave a Nest Co., Ltd., inspired participants by sharing his journey as an immunology researcher who contributed to a Nobel Prize-winning discovery. His message to students: "Science begins with curiosity, but its power lies in courage and action."

Highlights and Awards

A major feature of SCAsia2025 was the Science Castle Grant Ajinomoto (Malaysia) Berhad Award, which mentored ten Malaysian schools in research on food innovation, sustainability, and community wellbeing. On top of it, twenty-two teams presented on the main stage, with hundreds more participating in poster sessions judged by academias and Industry experts from across Asia.

Award Winners:

- Leave a Nest Grand Award: Cavite National High School (Philippines) – SoPoMo-Fish, a solar-powered fish-finding boat promoting sustainable fishing.
- Leave a Nest Special Poster Award: SMK Pusat Bandar Puchong 1 (Malaysia) – CuraLeaf, an AI-enhanced phytosensor for real-time plant nutrient monitoring.
- Ajinomoto Special Oral Award: SM St. Michael Penampang (Malaysia) – GlycoSmart Rice, a low-glycemic rice innovation using green banana starch.
- Focus Systems Special Oral Award: Samar National School (Philippines) – Protocol TRASH, a project turning household waste into affordable clean energy.

Additional poster awards sponsored by Sumitomo Group, Cyberview, MDEC, MMU, Kyowa Leather Cloth, Humanome Lab, Innoqua Asia, Sustainable Food Asia, Tenchijin, and IR Academy recognized outstanding contributions in biotechnology, renewable energy, and environmental innovation.

Looking Ahead

Building on the success of SCAsia2025, Leave a Nest continues to nurture young innovators across the region. In 2026, the Science Castle series will expand with events in the Philippines (January), Singapore (April), Malaysia (April), and Asia (August). Each gathering will bring together young minds, educators, and industry leaders to inspire curiosity, ignite collaboration, and shape a sustainable future for Asia through science.

FROM AQUARIUMS TO AQUACULTURE: MARK CHIAM'S JOURNEY INTO SCIENCE

By Mohamed Shazada, B.BS

Have you ever thought about how fish function sustainably in a fish tank compared to the ocean? For Mark Chiam, that sparked his passion, which began at a simple aquarium visit. Soon, childhood visits to the aquarium kept him mesmerized by how "all these small components come together to sustain life in the ocean." Even though he had no formal mentor, he nurtured this fascination, sparking a lifelong passion for marine science.

Mark Chiam
Graduate of BSc. Aqua Culture | Science Bridge
Communicator at Leave a Nest Singapore.

Building a Path in Aquaculture

Mark continued that passion academically, studying Environmental Science for his diploma before specializing in Aquaculture at university. With friends who shared the same passion, he founded an aquaculture club to promote sustainable aquaculture practices.

Advocacy and Science Communication

After graduation, Mark chose science communication over a traditional research path. He joined Leave A Nest Singapore as a Science Bridge Communicator. He found he could fully use his aquaculture expertise on diverse projects there—a flexibility that drew him to the role. For example, he pioneered an Aquaculture Immersion Program connecting Southeast Asian aquaculture startups with Japanese researchers, reflecting his commitment to sustainable aquaculture. Also as project manager, he organized workshops and field trips that brought marine science to life. In one "eco-jar" workshop, students built ecosystems in jars to learn how the nitrogen cycle sustains life. These experiences reinforced Mark's knowledge and helped him develop leadership and science communication skills.

Today, Mark mentors young scientists through programs like Science Castle, guiding them to present their projects clearly and confidently. Their enthusiasm reminds him of his own beginnings and the power of curiosity.

Inspiring Future STEM Enthusiasts

Mark shares a simple message with young people: "Stay endlessly curious." He urges them not to fear questions or mistakes, since real learning comes from curiosity and persistence. Rather, Mark encourages young people to ask themselves when the last time they got curious on a particular topic and ask them to start from there and see where it takes them. While technology evolves quickly, he emphasizes that creativity, collaboration, and problem-solving are timeless skills. With a solid foundation and an adaptive mindset, he believes the next generation can thrive in science—just as he did, from gazing at aquarium tanks to building a career bridging science with society.

WHEN CURIOSITY MEETS ENGINEERING : STUDENTS SHAKE UP EARTHQUAKE SCIENCE

By Airiel Joy Baldemoro, BSc

Overview

When earthquakes strike, we often see videos of tall buildings swaying along, but have you ever wondered how they stay standing? A group of young curious researchers from Pagalanggang National High School in Bataan, Philippines decided to find that out. Inspired by real-world engineering and the resilience of nature, they built their small-scale version of a Tuned Mass Damper (TMD), a device that helps buildings absorb vibration and remain stable during strong winds or quakes.

Their goal was simple, yet ambitious: to show that with curiosity and creativity, even complex earthquake engineering can be simulated using simple materials. Specifically, the experiment aimed to understand how a Tuned Mass Damper (TMD) helps buildings stay stable during earthquakes by reducing vibrations. Inspired by real-world engineering and the resilience of nature, they built their own small-scale version of this system, a device that allows tall structures like skyscrapers to "sway safely" instead of collapsing under stress.

Students from Pagalanggang National Highschool (Marah Antoinette A. Esconde, Winrad Hendrix P. Valencia and Precious Jayne I. Bama) with their Adviser Ms. Ysabel Embile

For the students, this study felt especially timely. With frequent tremors and earthquakes in the Philippines, they wanted to better understand how such engineering innovations can help protect lives and communities. Their project became both a scientific exploration and a reflection on preparedness in a country constantly reminded of the Earth's power.

Students setup of the experiment utilizing simple experiment like plastic bottles and bamboo sticks

Team hypothesis

If a small pendulum (the "damper") is attached to a flexible beam (the "building") and tuned near the beam's natural frequency, the pendulum will swing out of phase and reduce the beam's vibrations shorter shaking time and smaller amplitude.

Experimental Procedure
Setup A: Plastic Bottle Model

Materials: Two identical plastic bottles, Yarn or string (10–15 cm), Small metal or plastic disc, Tape, Timer

Cutting up of Plastic Bottle

Setup A: Plastic Bottle Model

1. Prepare two bottles, cut both at the top.
2. Leave one empty (for control setup).
3. For the second bottle, tie a small disc to a short piece of string. Tape it securely inside the top of the bottle, or make two small holes side by side near the top and thread the string through so the disc hangs freely.
4. Label them "No Damper" and "With Damper."
5. Gently shake each bottle and time how long it shakes before stopping.
6. Compare which bottle stops wobbling faster.
7. Record your results.

Experimental Procedure
Setup B: Bamboo Stick Model

Materials: Bamboo sticks, glue or adhesive, Yarn or string (10–15 cm), small washer or nut, and a timer.

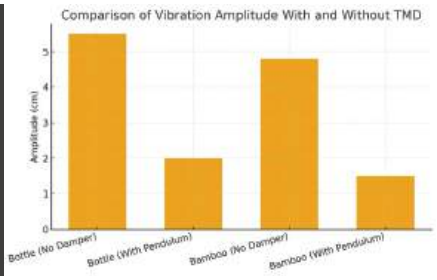
Steps:

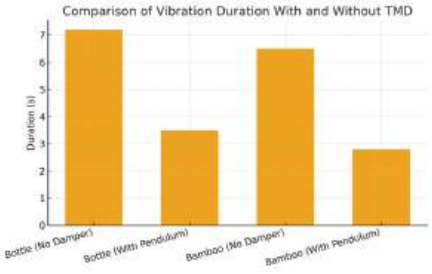
1. Build a narrow frame using bamboo sticks and glue it to a solid base.
2. Test how long it shakes after a shake..
3. Tie a small weight to a string and attach it near the top so it can swing freely.
4. Repeat the shaking test and measure how quickly it stops.
5. Record and compare your results. Does the pendulum help steady the structure?

Results

The bottle and bamboo sticks without a damper continued to shake visibly for several seconds, showing higher amplitude and longer damping time. When the pendulum was attached, the vibrations decreased significantly, the ruler returned to rest faster, and the pendulum's opposite motion visibly absorbed the energy. This confirmed that the tuned mass damper concept works, even with simple materials.

Figures 1 and 2: The figures show that the pendulum effectively absorbed part of the system's vibrational energy, causing the main structure to sway less.





Creative point in experimentation devised by the team

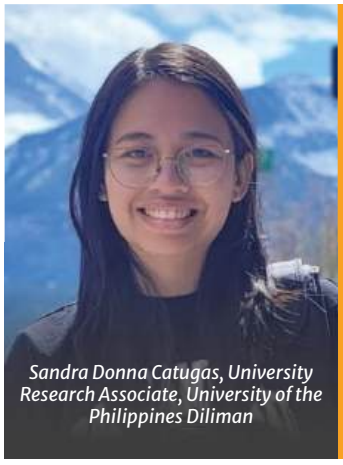
What sets this project apart is how accessible and relatable it is. Instead of relying on complex lab equipment, the team used everyday materials to model a system that engineers design to protect tall buildings. By pairing simplicity with scientific thinking, they proved that learning engineering doesn't need to stay on paper, it can happen in the classroom, too.

Future Plans

The students plan to continue improving their setup by experimenting with different string lengths and weights to find the "perfect tuning" that minimizes vibration even more effectively. The team expressed interest in promoting their model as a teaching tool. The group aims to connect their study to disaster preparedness and building safety awareness.

The students' message to the readers

Don't wait to be an expert before you explore. Ask a question, then experiment until you find your own answer. That's how innovation begins. Curiosity doesn't need fancy tools or perfect plans, just the courage to start. Try testing your own ideas, even with simple materials. You might be surprised by what you discover and inspire others to build something new too.



Sandra Donna Catugas, University Research Associate, University of the Philippines Diliman

Advice from Experts

Structures have a resonant frequency that depends mainly on their height. Taller buildings resonate at lower frequencies, while shorter ones resonate at higher frequencies. If this frequency matches an earthquake's seismic waves, swaying is amplified. The ground also has its own natural frequency: soft soils like river deposits amplify shaking more than hard rocks. To improve the experiment, test models on different subsurfaces, such as gelatin for soft soil and a hardbound book for hard soil.

My colleague Yannie Terite, a Teaching Associate from the Institute of Civil Engineering, agrees to make other models by varying string lengths or rigidity. She also emphasized the value of testing different weights to tune the damper to the building's frequency so that it can resist swaying. She further added that the mass damper is properly tuned if the structure can stabilize quickly.

Good job to the students for demonstrating their resourcefulness and entertaining their scientific curiosity. Continue promoting science towards a more sustainable future!

ANNOUNCEMENT

SCIENCE CASTLE FORUM AND HOUSE: BUILDING RESEARCH CULTURE ONE CASTLE AT A TIME

By Alexander Gali, BSc

Science Castle is a pioneering research conference for high school students, hosted by Leave a Nest across Asia to empower young minds in scientific inquiry and innovation.

Established in 2012 in Osaka, Japan, Science Castle was inspired by the idea of a "castle" as a center of culture and collaboration—fostering a community where students present research, connect with mentors from academia, government, and industry, and collaborate beyond schools and borders.

Science Castle Forum and House

Through the Science Castle Forum and House, Leave a Nest now invites schools in Singapore, Malaysia, and the Philippines to host their own Science Castle. These platforms make research accessible by helping schools cultivate a scientific culture and empowering students to pursue inquiry, collaboration, and innovation within their communities.

- Science Castle Forum – One leading school hosts the Science Castle, inviting nearby schools to participate in activities held on its campus.
- Science Castle House – Individual schools host their own Science Castle within their campus, featuring research by their students.

Empowering Schools and Students

The Forum and House model lets one school lead the program and invite others—or establish their own Science Castle on campus. Host schools gain:

1. Access to the Global Science Castle Ecosystem
2. Connection to an international research community
3. Mentorship and support from Leave a Nest and partner researchers
4. Recognition and pathways to larger stages such as Science Castle Singapore, Malaysia, the Philippines, Science Castle Asia, and Science Castle World

Join the Science Castle Journey

More than a conference, Science Castle is a movement to make scientific inquiry a cultural cornerstone in every school. Winning teams from local forums and houses advance to the Science Castle Local Series and ultimately to Science Castle World in Japan, joining peers and mentors from across the globe.

Schools in the Philippines, Singapore, and Malaysia are invited to host their own Science Castle.

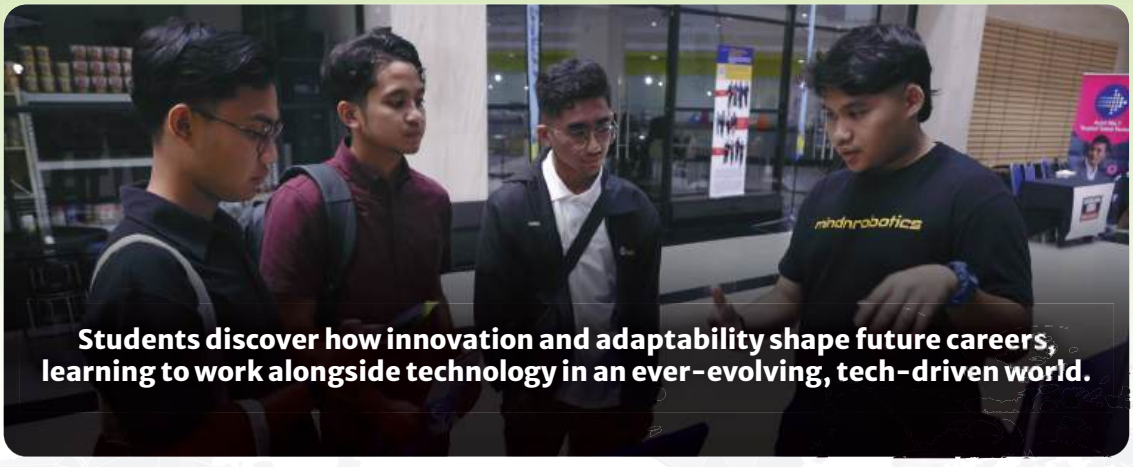
Interested schools can scan the QR code or visit

Together, let's build more castles of curiosity—where young minds shape the future of science, one discovery at a time. Contact us: Leave a Nest Group at INFO-ASIA@lne.st

https://global.lne.st/SCForum&House

Leaders share insights on building resilient, human-centred careers, embracing technology as a catalyst for growth and transformation.

A new generation gathers to explore opportunities, preparing to navigate disruption with creativity, curiosity, and purpose in a changing world.



Students discover how innovation and adaptability shape future careers, learning to work alongside technology in an ever-evolving, tech-driven world.

THE HUMAN EDGE: THRIVING IN A WORLD COLLABORATING WITH AI

University graduates today stand at a crossroads. The disciplines many have devoted years to mastering now face disruption as artificial intelligence (AI) reshapes industries and redefines what work means. As AI adoption accelerates, fresh graduates are left to wonder, “What will be our place in this changing world?”, “How can we prepare for a future where machines take on many of the roles once reserved for humans?”

Throughout history, humanity’s greatest strength has been its adaptability. The ability to learn, evolve, and overcome challenges. This same quality will guide the new generation forward. By embracing technology not as a threat but as a partner, today’s graduates can unlock new ways to learn, create, and innovate.

By leveraging AI to enhance the uniquely human skills that technology cannot replicate, such as creativity, empathy, and critical thinking, this generation will not only survive but thrive. Together, let’s explore the boundless potential of humans in an increasingly AI-integrated world and see how we can adapt to a society that is evolving the fastest humankind has ever experienced.

NAVIGATING THE WORLD OF AI: ADAPTABILITY, TECHNOLOGY, AND THE FUTURE OF RESEARCH

By Koki Mandai, BA

Dr. Zach Kuin Tian Pang, a researcher at A*STAR, *an educator at NUS and NTU, and the co-founder of AuctuCel*

In an era when artificial intelligence (AI) is transforming every sector, from finance to healthcare, the scientific world stands at a crossroads. For Dr. Zach Kuin Tian Pang, a multidisciplinary individual with a background as a group leader at the Agency for Science, Technology and Research (A*STAR) Bioprocessing Technology Institute, senior scientist at the A*STAR Bioinformatics Institute, adjunct assistant professor at National University of Singapore (NUS) and Nanyang Technological University (NTU), and co-founder of AuctuCel Pte. Ltd., the future of science and research increasingly requires researchers to have a strong foundation in their own field.

The use of Artificial Intelligence in the Biomanufacturing field

To Dr. Pang, AI is not an abstract concept; it is an indispensable tool that can accelerate discovery. At AuctuCel, his startup that optimises biotech/biomanufacturing/bioprocesses business and biomanufacturing industry, he applies AI and mathematical modelling (both mechanistic and mechanical) to digitalise biomanufacturing processes, leveraging his knowledge of metabolic modelling, graph theory, large language models (LLMs), and fluid-dynamic process modelling. These models help optimise cell culture media and accelerate, for instance, therapeutic production. By integrating AI-driven modelling, AuctuCel aims to reduce the costs required in testing and manufacturing, making advanced yet currently costly therapies more accessible.

Given this background, the challenge in biology/biomanufacturing, according to Dr. Pang, is that "you cannot rely on hardcore mathematics or modelling; you need biological understanding of what you are modelling (...) it's called domain knowledge."

Specialist and Polymath: The New Scientist's Skillset

Having moved fluidly between academia, industry, and entrepreneurship, Dr. Pang has observed a profound shift in what it means to be a scientist. Initially, as a PhD student, his focus was to drill down "one problem", through understanding deep knowledge, determination, and curiosity. Referring to his words, scientists must have the mindset and the hard skill capacities to be "absorbed into the problem, having time and brain space to tackle the problem" as their fundamentals.

However, he also acknowledges that after the rise in public use of AIs at the end of his PhD, he realised the need to acquire skills outside his specialties, such as coding and understanding the underlying technology of AI. The skills he acquired will soon no longer be considered as a "skillset", but rather become the standard issue for the future generation.

Following his narrative stated above, Dr. Pang claims, "We are no longer becoming a specialist in a topic, but rather we need to know a little bit of everything." Currently, at AuctuCel, his team includes specialists in multiple fields, not limited to mathematicians, computer scientists, and engineers. Dr. Pang learns to speak different "languages" in the science and business fields; "I often hear scientists complaining that they have no commercial sense or business acumen, but it should not be an excuse. We should learn," he says.

In a world where scientific problems are increasingly becoming complex relative to the past, the quality of collaboration truly depends on the ability to communicate across disciplines. For instance, Dr. Pang states that the biomanufacturing field his company is in requires people with an understanding of chemistry, engineering, and mechanical modelling to succeed in addressing the problems his team is trying to solve. Hence, he believes the next generation of scientists must combine depth in one field with breadth across many, able to explain their work to multiple stakeholders with different interests, such as the funders, customers, and peers alike

The Risk of Losing the Art of Learning

When asked what skill young scientists most underestimate, Dr. Pang immediately answered: the "ability to read and to comprehend".

Addressing the overreliance on AI as a significant problem, he warns that the students would no longer be able to learn, read, digest, and comprehend if they do not "[train] the muscle to read and to digest complex knowledge". He believes that AI should inherently be used for assistance, where it can make the existing tools more efficient, as long as the users understand how they are using it and what its outputs are. However, once the foundation of knowledge is built with AI, it is extremely difficult to reverse; the importance of learning the "process" for achieving certain results may be lost. As Dr. Pang states, we are risking a "doomed generation, and it will be too late to find out" once the entire batch of young scientists is not taught "how to learn".

For him, AI should enhance, not replace, the learning process. True mastery comes from understanding the journey, not just the answer.

Rethinking Science and Education for an AI World

In the biomedical sciences, Dr. Pang emphasises, the stakes of using AI are uniquely high. For example, in drug development, accuracy, safety, and regulatory compliance are not negotiable, as it is directly related to the lives of people. How much of AI "efficiency" should be relied on over manual robustness is a question people should constantly ask. He argues that scientists must pair technical fluency with ethical awareness and critical thinking, ensuring that efficiency never compromises integrity. As mentioned, the "common ground", the ability to read, write, and learn, may be at risk of disappearing. However, these skills are precisely what keep the "human" factor in these fields, hence they are crucial in creating value for society.

Dr. Pang giving his speech in the BioProcess International Asia Conference in Japan, on the topic of computational approach to accelerate culture media optimisation for new modalities

*Dr. Pang, his team, and their guest at the launch event of AuctuCel, the biotech Spinoff from A*STAR Bioprocessing Technology Institute (BTI)*

Staying Rooted Amidst Technological Change

Looking ahead, Dr. Pang advises young students and scientists navigating an AI-driven future to ***"Stay rooted in [your] domain (...) It is easier for you to bring AI into your domain and transform your industry than to go into AI and abandon your own skillset/specialisation,*** *and later decide to bring your specialisation back into your field."*

He smiled and stated confidently, "Which is why I always call myself a Bioengineer or a Scientist, instead of calling myself an AI specialist."

BLUEPRINTS FOR THE FUTURE: INSIDE THE SKILLSET OF TOMORROW'S INNOVATORS

By Neil Clarence Diaz, BSc

"A group of university students once built a solar-powered drone out of curiosity, a small campus project that eventually became a startup helping farmers map and monitor their fields." Stories like this are now common as young scientists and engineers turn their ideas into technologies that improve lives. Bringing such inventions to society often means transforming them into commercial ventures—and building a science- and technology-based startup requires mastering a distinct set of skills.

From Idea to Prototype

Scientific and Technical Mastery

"Depth creates direction. The better you know your field, the more clearly you see where it can go next."

Every great technology begins with mastery — not of tools or trends, but of a discipline. Whether it's biology, chemistry, physics, computer science, or materials engineering, deep understanding of a field is the root from which real innovation grows.

Scientific and technical mastery means learning your subject beyond the classroom — understanding not just what is known, but how that knowledge was built. It means exploring the principles, mechanisms, and equations that govern your chosen area until they become second nature. The deeper you go, the more clearly you begin to see what's missing — the gaps that new technologies can fill.

Studying molecular biology inspires new biosensors. Understanding semiconductor physics reveals better energy harvesting. Mastering algorithms opens new paths for automation and prediction.

Universities are the ideal place to cultivate this depth. Join a lab that aligns with your curiosity, work under a mentor, or spend time mastering a niche tool or theory.

"Every prototype tells the truth your idea couldn't yet see."

University makerspaces and innovation hubs are the best classrooms for this kind of learning. Whether you're 3D-printing a biomedical device, designing a robotic arm, or developing a smart sensor, these spaces teach how to balance precision with practicality.

It's through building that you learn design in its truest form: how materials behave, how tolerances affect performance, how one decision cascades through a system.

Once you understand your field deeply, the next step is **to bring that knowledge into the physical world.** Prototyping transforms what you know into something real — a bridge between theory and application.

Understanding Data and Systems

In today's world, every innovation relies on data. Being able to analyze, simulate, and interpret results has become an essential part of scientific work and technological design. It's not just about running calculations or processing numbers—it's about interpreting experimental results, identifying trends in performance, comparing outcomes between tests, and using those insights to refine your design or approach long before building at scale.

When you master the analytical side of your field, you become capable of moving from intuition to insight, from guesswork to grounded decision-making.

Rules, Readiness, and Real-World Fit

Every discovery must eventually leave the lab — between a promising idea and a viable startup lies a landscape of rules, readiness, and responsibility. Every technology operates within frameworks of intellectual property, safety standards, and ethics, and understanding these early strengthens—not limits—your creativity. Knowing how patents, regulations, and compliance protect both inventors and users helps you build something that lasts, and universities often provide technology-transfer offices or IP workshops to guide you through that process.

Readiness, however, is more than legal awareness—it's about practical fit. A startup succeeds when its technology meets real needs and can survive in the market. Learning to test assumptions, assess costs, and validate demand through techno-economic studies and pilot projects helps you refine your invention for the world it aims to serve.

Across Asia, several programs now help researchers bring science to market — including DOST's Program PROPEL in the Philippines and a program in Leave a Nest called Science & Technology Entrepreneurship Training (SCENT) as well. These initiatives guide innovators to pair scientific rigor with commercial readiness.

Gathering Your Crew

Turning an invention into a business involves many areas—finance, marketing, and legal—that you may not fully master as a scientist or engineer. What you can master is the art of inspiring others to join your mission. Through Science Bridge Communication (SBC), a practice developed by Leave a Nest, you can present your innovative ideas in ways that connect specialists from different fields. By communicating science clearly and meaningfully, you make it easier for others to collaborate and help move your technology toward real-world application.

Scholar technopreneur presenting her idea and mission to gather members during a bootcamp of Scholars\ Technopreneurship Training Program, a government counterpart of SCENT.

Building the Future, One Skill at a Time

The next generation of technology companies will rise from people who know their disciplines deeply, build fearlessly, and learn continuously. For students, this journey begins not with a business plan, but with a question—a problem worth solving—and the willingness to master the knowledge needed to solve it.

So start where you are. Study deeply. Build boldly. Learn relentlessly. **BE INTENTIONAL**. Every skill you gain becomes part of the foundation for your own startup—and perhaps for the world it will help shape.

REFERENCES:

- Marx, M., & Hsu, D. H. (2022). Revisiting the Entrepreneurial Commercialization of Academic Science: Evidence from "Twin" Discoveries. Management Science, 68(2), 1330–1352.
- Ferguson, R. (Ed.). (2020). Biotechnology Entrepreneurship (2nd ed.). Academic Press/Elsevier.
- Kruachottikul, P., Dumrongvute, P., Tea-makorn, P., Kittikowit, S., & Amrapala, A. (2023). New product development process and case studies for deep-tech academic research to commercialization. Journal of Innovation & Entrepreneurship, 12(48).

CROSSING BORDERS, BRIDGING MINDS: SHERMAINE'S JOURNEY FROM SCIENCE TO DEEP TECH

By Ruchira Karjee, BEng

When Shermaine Yap, a third-year student at Nanyang Technological University (NTU), joined the Deep Tech Internship Program (DTIP), she didn't expect it to open doors beyond her initial placement. During the program's TECH PLANTER Thailand segment, Shermaine had the chance to meet and interact with ecosystem builders, including UntroD Capital Asia, a connection that would later shape the next step in her journey. Today, she continues her learning as an intern with UntroD, applying her deep-tech exposure to the world of venture capital and innovation investment.

Coming from a background in nursing and a double major in Biomedical Science and BioBusiness, Shermaine had always been drawn to healthcare. But her internship experience in Bangkok, Thailand, offered a broader view of how science, entrepreneurship, and human connection intersect – lessons that now guide how she approaches both technology and the evolving role of artificial intelligence (AI).

On site picture of Muu's Precision Fermentation Unit at Kasetsart University

From Healthcare Foundations to Deep Tech Exploration

With a background in nursing, Shermaine had always been driven by her passion for healthcare. Her first internship at Grey Matter Solutions, a health-tech startup developing diagnostic tools for mild cognitive impairment, allowed her to see how scientific research could be transformed into practical tools that improve lives.

Through DTIP, Shermaine joined Muu, a biotech startup in Bangkok, Thailand, developing sustainable protein products. The move not only placed her in a new country but also immersed her in the intersection of science, business, and culture.

"Before DTIP, I didn't even know what deep tech meant," she recalls. "But working at Muu helped me see how science and entrepreneurship can intersect to solve real-world problems."

Learning What Technology Can't Replace

At Muu, Shermaine handled business development and market research, identifying product opportunities and go-to-market strategies.

"To understand our target market, I spent a lot of time talking to people, including gym-goers, friends who are into fitness, and anyone who used protein powders," she explains. "You start to realise how personal preferences and habits shape decisions. Those nuances can't be captured by data alone."

This research led her team to discover a niche market for protein powder for diabetic consumers – an insight born from empathy, not algorithms.

From Science to Storytelling

Transitioning from a technical background into business was both challenging and rewarding for Shermaine.

"In school, I learned the science," she says. "But in a startup, I had to explain it to investors, customers, and partners. That ability to translate complex ideas into something relatable became one of my most valuable skills."

It's a skill that continues to serve her well in her current internship at UntroD Capital Asia, where she communicates insights about complex deep-tech sectors such as renewable energy and quantum technologies to her team and partners.

Shermaine with the UntroD Capital Asia Team at a Team Dinner

This capacity to bridge science and society through communication lies at the heart of Leave a Nest's mission of transforming technical knowledge into shared understanding that fuels collaboration and innovation.

AI as a Partner, Not a Replacement

Now interning at UntroD, a venture capital firm, Shermaine uses AI tools to support research in emerging sectors such as renewable energy and quantum technologies.

"AI helps me learn faster," she says. "It gives me perspective, but the decision-making still depends on human judgment, empathy, and relationships."

Having seen both startups and VC operations firsthand, she believes that technology should enhance, not replace, how people think and connect.

Through Shermaine's story, we see how cross-border deep tech experiences nurture adaptable, human-centered innovators. In an era shaped by AI, it's the human ability to connect, interpret, and empathize that gives innovation its purpose.

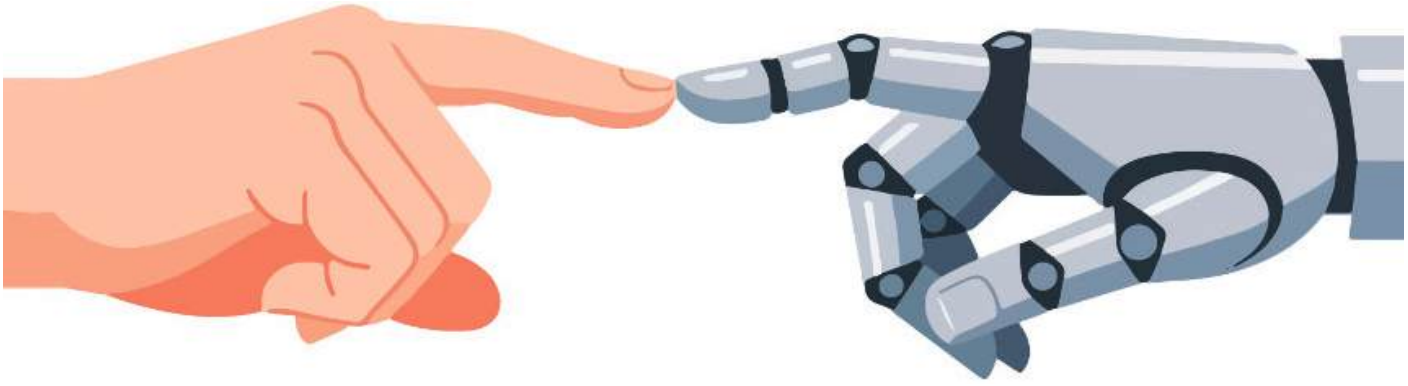
Shermaine's experience reflects a growing truth in today's deep tech landscape: innovation thrives when humans and technology work hand in hand. What sets us apart is our ability to adapt, reason, and imagine beyond machines. AI amplifies these strengths, helping us learn faster, uncover hidden patterns, and draw insights across fields. Yet, it is our curiosity, empathy, and creativity that give meaning to knowledge and turn information into innovation.

Her journey, from healthcare foundations to deep tech exploration and now venture capital, shows how cross-border experiences cultivate thinkers who can bridge science and society. By learning to use AI not as a replacement but as a partner, Shermaine embodies the next generation of innovators: those who combine data with empathy, logic with imagination, and technology with purpose

BEYOND AI– THE POWER OF SCIENCE BRIDGE COMMUNICATION FOR HUMAN CONNECTIONS

By Nor Ilia Anisa binti Aris, PhD

In an era where Artificial Intelligence (AI) seems capable of answering almost any question, one might wonder: what remains uniquely human? The answer lies in Science Bridge Communication (SBC), a soft skill that goes beyond data, algorithms, and automation.



Science Bridge Communication (SBC) is the ability to communicate beyond knowledge borders, connecting people from diverse backgrounds, industries, and areas of expertise. It's not merely about sharing information; it's about bridging understanding between different perspectives. In SBC, knowledge and information take on new meaning. Information is static, and it describes what is. Knowledge, however, has a vector, and it points toward discovery, action, and change. A Science Bridge Communicator does more than share facts. They identify issues, gather insights, and create new systems and knowledge through collaboration.

Practising SBC calls for curiosity, empathy, and deep listening, qualities that no machine can truly replace. It helps individuals turn complex ideas into shared understanding, inspiring collaboration and innovation.

SBC as a Career Foundation

For young professionals and students, mastering SBC can be the foundation for a fulfilling career. In a world where knowledge is abundant, those who can connect the dots between people and ideas hold the real advantage. Through SBC, individuals learn to communicate complex ideas clearly across disciplines, understand the needs of different stakeholders, build collaborations that lead to innovation and social impact, and translate science and technology into meaningful solutions, guided by empathy and emotional intelligence. These are the very skills that define future leaders and innovators, and they cannot be automated.

Forging a Career with SBC

Developing Science Bridge Communication opens doors to diverse paths: research collaboration, entrepreneurship, community engagement, education, and policymaking. The ability to connect knowledge and people transforms one from a specialist into a bridge builder, someone who makes innovation possible.

As AI continues to evolve, the most successful professionals will not be those who compete with machines but those who use AI as a tool while maintaining the human touch that connects ideas to people and ideas to impact.

Science Bridge Communicator is not only able to communicate beyond knowledge borders, but also connecting people from diverse backgrounds

SCENT SARAWAK: EMPOWERING FUTURE TECHNOPRENEURS THROUGH SCENT

By Farha Husna Ramli, MSc

Graduates in Malaysia continue to face challenges in securing suitable employment after completing their studies. Recognizing this issue, the Malaysia Education Blueprint 2015–2025 (Higher Education) emphasizes the importance of shifting the mindset of graduates from being job-seekers to job-creators. This vision aligns with the government's ambition to stimulate innovation and entrepreneurship, aiming to establish 5,000 new startup companies by 2025. By 2030, Malaysia aspires to be among the top 20 countries in the global startup ecosystem, fostering a culture that empowers graduates to create opportunities rather than merely pursue them.

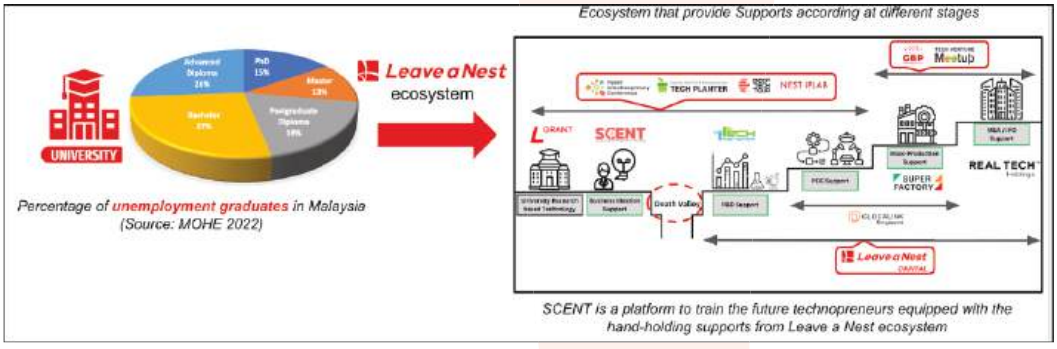


Figure 1: SCENT Concept in Empowering Future Technopreneurs

In line with this national agenda, Leave a Nest Malaysia established the SCENT (Science and Entrepreneurship Training) program in 2024 to nurture future technopreneurs. Through SCENT, participants receive comprehensive hand-holding support from the Leave a Nest ecosystem — blending scientific thinking, entrepreneurial skills, and practical innovation.

This year, Leave a Nest Malaysia collaborated with the Sarawak Digital Economy Corporation (SDEC) to deliver Techfrontier Explorer x SCENT, a customized program designed for Swinburne University students. Running from June 2025 to October 2025, the program involved 20 students and the program equipped students with seven training modules focusing on mindset, skills, technopreneurship, and perseverance. The journey culminated at IDECS25, where participants showcased their innovative ideas during the Demo Day.

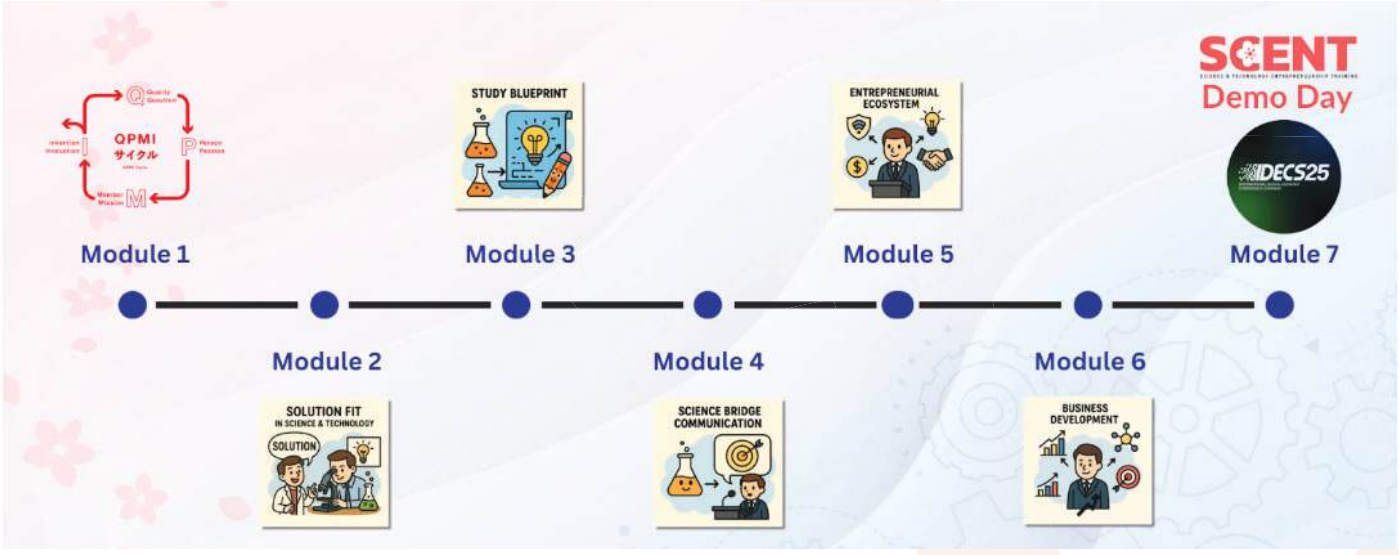


Figure 2: Seven modules in SCENT

Figure 3: SCENT Demo Day at IDECS25

At its core, SCENT continues to serve as a platform to ignite curiosity, cultivate resilience, and empower the next generation of technopreneurs — driving Malaysia closer to its goal of becoming a leading hub for innovation and entrepreneurship.

TRANSITIONING FROM A FOREIGN STUDENT TO THE WORKING WORLD IN SINGAPORE

By Koki Mandai, BA

Returning to Singapore

Because my family moved frequently, I grew up adapting to new places and perspectives. Living across different parts of Japan and Southeast Asia, including Singapore, international interactions naturally became a part of my daily life. My middle and high school in Japan offered an "international course" that brought together students who, like me, had spent significant years abroad. Each of us carried different cultural lenses, enriching our conversations and worldview.

With this background, I chose to return to Singapore for university. Yale-NUS College, a liberal arts college jointly founded by Yale University and the National University of Singapore, became my academic home. Although my cohort ultimately became the final graduating class from the institution, the experience was profoundly meaningful. Every day at Yale-NUS exposed me to new academic, cultural, and personal ideas that continue to influence how I approach challenges today.

From Yale-NUS to Leave a Nest Singapore

I majored in Economics, but true to the liberal arts spirit, I immersed myself in a wide range of courses: Computer Science, Politics, Sociology, Philosophy, Literature, and the Arts and Humanities. This multidisciplinary approach allowed me to observe issues through multiple lenses and appreciate how different fields can intersect to generate new insights.

This perspective led me to participate in research on the optimal use of generative AI in higher education. Working with peers from diverse disciplines, our team explored how AI could reshape learning, assessment, and the broader future of education. The experience reaffirmed my belief that innovation often emerges at the intersection of fields.

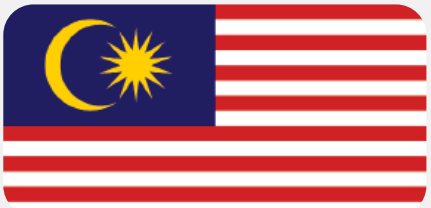
When I first interacted with Leave a Nest's partners through their tour of facilities in Japan, I immediately sensed a synergy with my background. I learnt that Leave a Nest strives to address issues at various levels by becoming the bridge between highly specialised individuals, companies, research institutions, and society, creating collaborations from multiple fields that previously did not exist.

Although I did not come from a traditional science and technology discipline, I felt that my liberal arts training, combined with my experience as a Japanese student choosing to build a career in Singapore, could simultaneously bring the interdisciplinary and international collaborations to achieve Leave a Nest's mission of "Advancing Science and Technology for Global Happiness". As I saw an opportunity to bring fresh perspectives and help bridge across cultures, disciplines, and industries, I now endeavour to create a more interconnected world where innovations can solve both local and global issues.

Today, as a recent graduate working in Singapore, as a young researcher with a liberal arts background, and as a member of Leave a Nest Singapore, I hope to continue connecting communities, not only between Japan and Singapore, but across many more regions, to co-create knowledge that can positively impact society. I believe that students/young researchers who can embrace interdisciplinary curiosity and cultivate specialised expertise are similarly positioned as me to act as "bridges", linking specialised knowledge with real-world contexts and navigating today's world where solutions must be as interconnected as the challenges themselves.

KICKSTARTING 2026: HD EVENTS YOU WON'T WANT TO MISS THIS Q1

MALAYSIA



FEB 11

SCENT
SCIENCE & TECHNOLOGY ENTREPRENEURSHIP TRAINING

APR 18

Add Venture Forum

TBC

DEEP TECH TOUR

SINGAPORE

FEB 10

Global Knowledge Hub Forum

PHILIPPINES

FEB 6

Add Venture Forum

MAR 10

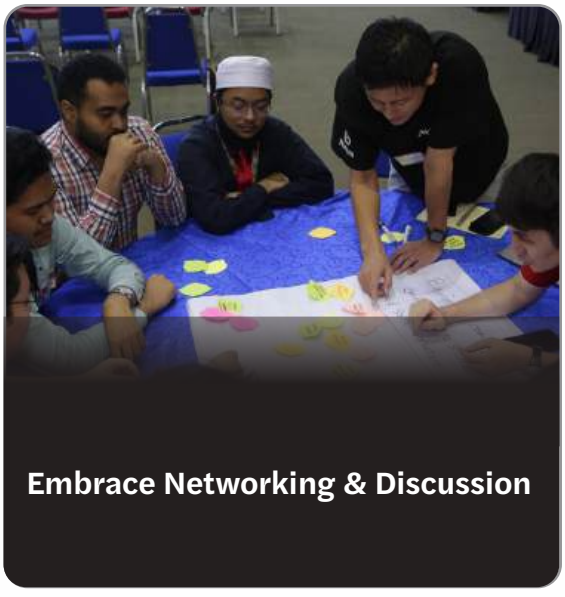
KMLX
Knowledge Manufacturing Leaders

MAY 23

SCENT
SCIENCE & TECHNOLOGY ENTREPRENEURSHIP TRAINING

DON'T MISS OUT!

Enhance Collaboration



Embrace Networking & Discussion

Successful Grant Applications

GRANT LANDSCAPE IN SOUTHEAST ASIA

In a world brimming with opportunities across various sectors, a significant gap persists between grant providers and recipients. Despite the myriad of available grants, providers often struggle to find recipients who align with their mission, resulting in missed opportunities for impactful change. On the flip side, countless grant seekers face hurdles in securing essential funding, navigating complex application processes, and deciphering specific eligibility criteria.

To overcome challenges like communication barriers and differing priorities, it's essential for both grant providers and seekers to embrace transparency and open dialogue. Providers can enhance the process and align with recipients' goals. Meanwhile, seekers should clearly express their purpose and fit with the grant's vision. By fostering collaboration and creating platforms such as HIC that facilitate understanding, the gap between grant providers and recipients can be closed, unlocking the full potential of funding and driving meaningful progress.Dive into the following articles to explore how these strategies can effectively bridge the gap.

FUNDING INNOVATION: EMPOWERING RESEARCH DEVELOPMENT IN MALAYSIA

By Suzianti Iskandar Vijaya, Ph.D

Malaysia's innovation landscape is evolving rapidly, driven by a shared belief that ideas from the lab can shape a better future. For researchers and university spin-offs, funding is not just about money; it's about opportunity, validation, and the freedom to experiment. Recognising this, the Ministry of Science, Technology and Innovation (MOSTI) leads national efforts to bridge discovery and market application through its structured R&D, commercialisation, and innovation (R&D&C&I) programmes. MOSTI's grants are designed with measurable outcomes and milestones, reflecting a shift toward impact-oriented research that contributes to national development and sustainability.

Beyond research funding, Malaysia has also created mechanisms to help innovators test, fail, and improve in real-world settings. The National Technology & Innovation Sandbox (NTIS), spearheaded by MRANTI, offers not only financial support but also access to testbeds, mentorship, and regulatory facilitation. These initiatives remind us that innovation thrives when ideas are given space to grow and that collaboration between researchers, industry, and policymakers is key to building a future-ready economy. NTIS, in particular, demonstrates how Malaysia is embracing bold experimentation to accelerate technology adoption in sectors like healthcare, agriculture, and green energy.

For startups and university spin-offs, Cradle Fund remains a cornerstone of early-stage innovation. Its Cradle Investment Programme (CIP) provides non-dilutive funding and mentorship that help founders move from prototype to product. Many academic entrepreneurs see Cradle not just as a funder, but as a partner that believes in their potential. Likewise, the Malaysian Technology Development Corporation (MTDC)'s Commercialisation of R&D Fund (CRDF) supports the transition from research to real business, ensuring technologies developed in universities find their way into the marketplace.

At the foundation, the Ministry of Higher Education (MoHE) continues to invest in discovery through the FRGS, LRGS, TRGS, and PRGS schemes to nurture talent and intellectual property. Together, these programmes form an innovation continuum: from research curiosity to commercial reality. More importantly, they reflect Malaysia's commitment to empowering people: researchers, students, and entrepreneurs; to turn knowledge into lasting impact.

SILVER LININGS ON THE GRANT JOURNEY TO REAL IMPACT

By Anis Nadyra Zifruddin, Ph.D

The Beginning of the Journey

In 2018, during a fellowship at the University of Manchester's SYNBIOCHEM Biofoundry supported by Yayasan Penyelidikan Antartika Sultan Mizan (YPASM), Dr Ahmad Bazli Ramzi found his direction. He was exploring synthetic biology and began shaping a proposal that spoke to real environmental pressures. The idea that gripped him was sustainability and how synthetic biology could serve as a platform for fundamental and more importantly, translational research for addressing pertinent issues like climate change, plastic pollution and high-carbon industrial practices. When he prepared his YPASM proposal submission, he treated the call like a roadmap. He studied every requirement, aligned his questions with the funder's themes, and linked Antarctic knowledge to solutions that matter for Malaysia. "That grant was a stepping stone in my career as a young scientist," he says. The discipline of applying for it sharpened his thinking and clarified his path.

Dr. Bazli with Professor Nigel Scrutton, a leading scientist in synthetic biology for biochemical production, during his YPASM fellowship placement at the University of Manchester in 2019.

The Unleashed Potential

Winning the YPASM fellowship did more than fund a study. It changed his trajectory. Fulfilling the hard requirements became the bridge to new opportunities. The experience placed him inside a leading biofoundry where he saw how ideas move from concept to experiment to application. It expanded his circle, connecting him with mentors and collaborators who challenged and refined his work. Those connections began to compound. He returned with fresh skills, a clearer research direction, and the confidence to build a team of students and young researchers who believed in the same mission. That momentum helped him shape the plan for a dedicated platform in Malaysia. Seven years after that first fellowship, he established Malaysia's first biofoundry in the Institute of Systems Biology (INBIOSIS), Universiti Kebangsaan Malaysia. Recently, his team earned recognition in a prestigious synthetic biology competition, namely SynBio Challenges in China, a sign that Malaysian synthetic biologists can compete and contribute at a high level.

Dr. Bazli's team, composed of postgraduate students, performed strongly at the SynBio Challenges 2025 in China.

Advice for the Next Wave of Applicants

His advice to grant applicants is simple and grounded. Study the call, meet every requirement, and align the proposal with the funder's priorities. Shape the project around the team's strengths and the stated theme. Be bold in outreach and contact prominent researchers to build international collaboration. As he recalls at the beginning of his career, "I just reached out to renowned scientists and stated my intention and proposal clearly, even without knowing them personally." That mindset builds credible partnerships and gives a well-matched, complete application the best chance to be funded. This also reflects Leave a Nest's values that real impact comes from connecting people and knowledge within a strong ecosystem.

NAVIGATING THE GRANT: AN OVERVIEW OF APPLYING OF RESEARCH GRANTS FROM DIFFERENT COUNTRIES

By Vincent Ramos, BSc

Securing a research grant in the Philippines is a competitive journey. The process for government-funded initiatives is governed by distinct rules, essential for both applicants seeking funds and grantees managing them.

A proponent's first hurdle is alignment. Government agencies like the Department of Science and Technology (DOST) fund projects that solve national problems. A proposal's critical feature is its alignment with the Harmonized National R&D Agenda (HNRDA), the official S&T roadmap. An innovative ide if not aligned is unlikely to be funded.

To enhance a proposal, applicants can explore international partnerships. The DOST encourages these, often managed through bilateral agreements with foreign funding bodies. Examples include joint calls with Japan's JST and JSPS, or the Newton Agham Programme with the United Kingdom.

These international grants follow a golden rule: a Philippine-based researcher or institution must serve as the official supporter submitting the proposal to DOST. While the foreign partner submits a parallel application in their home country, the Filipino researcher is the official lead for the local grant.

Once a project is approved, the grantee's role shifts to project management. The process is formalized by signing a Memorandum of Agreement (MOA), a legal contract defining the project's scope and its strict Line-Item Budget (LIB). A defining feature of the Philippine system is its financial mechanism. Grantees do not receive the full budget as a lump sum. Instead, funds are released in "tranches" or so called installments.

The release of the next tranche is contingent on the successful "liquidation" of the previous one, a detailed, receipt-based financial report. This strict procedure exists because all public funds are subject to oversight from the Commission on Audit (COA).

This COA-driven system impacts flexibility. If a researcher needs to move funds between budget categories a "budget realignment", they cannot do it unilaterally. It requires a formal, written request to the funding agency, which can take time. A project is only considered "finished" after the grantee submits both a Final Technical Report (detailing the research outcomes) and a Final Financial Report (closing out all accounts) for approval.

While the financial management is strict, this system is designed for public accountability and has not deterred innovation. The success of numerous joint projects with partners in Japan, the UK, and beyond proves that collaboration is not only possible but thriving. One example of this is the Scholars Technopreneurship Training Program (STTP) organized by the Department of Science and Technology – Science Education Institute (DOST-SEI), with Leave a Nest Philippines as the training provider. In this program, scholars (applicants) create their own research or build their own startup and propose cutting edge technology so scholars doesn't just end in the laboratory but translate into new, innovative companies and real-world solutions.

The Filipino research community is resilient and eager to connect. For international partners, the key is simply to understand these procedures and build strong, trusting relationships with their Philippine-based counterparts. The challenges are part of the journey, but the rewards are impactful, collaborative science is well worth the effort.

SEEING BEYOND WITHOUT LOSING SIGHT: AN EXPERIENCE OF UNIVERSITY GRANT IN THE PHILIPPINES

By Krisha Corbo, BSc

On Achieving Full Inclusivity

Mr. Redoblado described the grant application process as straightforward. "The grant is open to many areas as long as computational tools are used," he explained, adding that it aims to expand to other colleges, such as engineering and agriculture. A condition of the grant required recipients to present their studies at a research conference. For him, "it was really like hitting two birds with one stone," he added, "I got to use the grant to fund my registration and accommodation fees, and I could present my research in that conference in return." He presented his study at the 43rd Samahang Pisika ng Pilipinas Physics Conference and Annual Meeting, and it allowed him to connect with renowned researchers and share his findings.

Inclusivity, as expressed by Mr. Redoblado, is a cornerstone of the grant. "One thing to ensure about university grants is to make them accessible and transparent," he noted, adding that "some deserving students miss out due to a lack of information and resources." For him, true inclusivity means both access and understanding—ensuring that opportunities and information reach more people.

The Discipline Behind Inspired Thinking

Mr. Angelo Redoblado, a Bachelor of Science in Applied Physics graduate from the University of the Philippines Los Baños, received the Dr. Eliezer A. Albacea Undergraduate Research Grant for the Computational Sciences. His study explored the use of computational physics to assess the structural and vibrational characteristics of a cluster of carbon atoms. Despite its technical nature, he wrote his research to be accessible and relevant. This balance of clarity and complexity, coupled with originality and purpose, made his study a worthy grant recipient.

His approach was inspired by the song "Got to Believe in Magic" by David Pomeranz. Just as the song evokes wonder, he wanted his study to be enticing yet grounded in realism. The theme also connects with his work, as some carbon clusters are stable at specific "magic numbers" of atoms. Beyond the science, what truly motivated him was his desire to advance lives through sustainable means, especially for marginalized communities. "When we act with their well-being in mind," he shared, "we make research inclusive by using language that everyone can understand." Though technical terms are inevitable, his goal was to make his work resonate with a wider audience.

Towards A Future Of Limitless Researchers

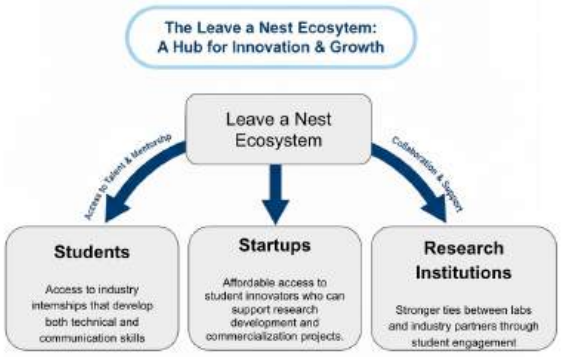
His experience made him hopeful for a future where researchers are fully supported to explore without limits. With proper resources, he believes more students can complete their studies and contribute to advancing knowledge. For him, a limitless researcher is one empowered by tools, funding, and inclusivity—able to push the boundaries of learning for the good of all. In that same spirit, Leave a Nest strives to empower the next generation of researchers and knowledge-makers by nurturing curiosity and turning passion into purpose, and knowledge into impact.

FROM CLASSROOM TO INDUSTRY: HOW THE GLOBAL READY TALENT INTERNSHIP GRANT POWERS SINGAPORE'S INNOVATION ENGINE

By Priyavadana Meyyappan, MSc

Bridging Talent and Industry in Singapore's Ecosystem

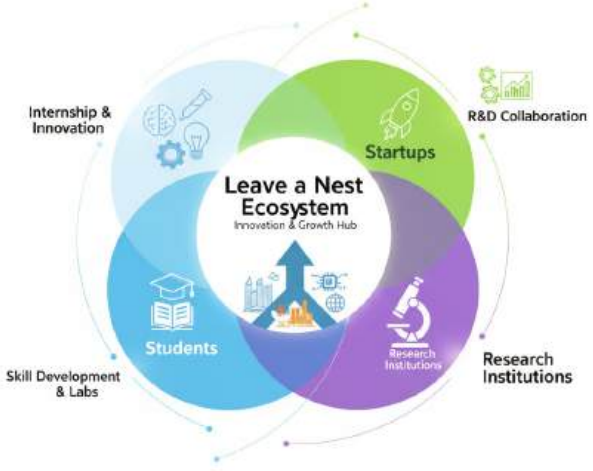
In a world marked by rapid technological change and global competition, the best innovations often emerge when **bright students meet real-world industry** challenges. Singapore's new internship funding under the **Global Ready Talent (GRT) Programme**, administered by **Enterprise Singapore**, is doing exactly that, connecting students, startups, and companies to accelerate innovation while preparing the next generation of science and tech leaders.



About the Grant

The **Global Ready Talent (GRT) Programme**, launched by **Enterprise Singapore — a government agency under the Ministry of Trade and Industry (MTI)** — supports Singaporean enterprises that hire full-time tertiary students, from universities, polytechnics, and ITEs, for structured internships either locally or overseas. Participating companies are eligible for **up to 50% funding support** for the minimum monthly internship stipend (for SMEs) and **30% for non-SMEs.**

The programme also supports **overseas internships**, where students can receive additional travel and living allowances through their educational institutions. By aligning classroom learning with real-world projects, the grant helps students become future-ready, while enabling businesses to engage emerging talent at a lower cost.



Why This Matters for Students and Startups

For students, this grant transforms internships into hands-on laboratories of innovation. Instead of just observing, they participate, solving challenges in sustainability, AI, deep tech, and other frontier industries. For startups and companies, it's an affordable way to tap into a **pipeline of young talent** while contributing to skill development in Singapore's innovation ecosystem.

At **Leave a Nest**, this initiative directly complements our mission of nurturing **science bridge communicators**, individuals who can connect research, business, and education. By leveraging the GRT grant, students can join our ecosystem partners for meaningful internships, while startups in our network gain motivated interns who bring fresh ideas and research skills to real-world innovation projects.

Looking Ahead

As Singapore continues to position itself as a global innovation leader, programmes like the **Global Ready Talent (GRT) Internship Grant** are foundational. They don't just build skills, they build bridges: between universities and startups, between research and real-world application, and between today's students and tomorrow's industry leaders.

For students: Check with your institution's internship office or Leave a Nest's partner startups for GRT-eligible opportunities.
For startups: Explore how the GRT grant can bring fresh perspectives and new energy into your projects and contribute to shaping Singapore's innovation future.

For more information, scan the QR code below

RESEARCH DEVELOPMENT

POSITIONING RESEARCH ON THE GLOBAL STAGE

By Sivakumar Thamizvanan, Msc

International research grants don't just fund projects, they enable new innovations and deep learning non-dilutive capital and credibility, opening doors to testbeds, policy forums, and industry collaborations. While recently had an opportunity to talk with one of the recipients Dr. Prasada Rao Rayavarapu, National University of Singapore (NUS) and National Research Foundation (NRF) senior research fellow, CEO and Co-founder of Thiopspark, he reminds us that "funding is a means, not an end and the end is measurable benefit to people and planet."

Scaling Impact Through International Collaboration

Dr. Rao says that his motivation stems from the opportunity to expand the scope and impact of his research through international collaboration. Such grants often emphasize interdisciplinary innovation and practical relevance, which align with his goal of translating lab-based findings into real-world technologies. Moreover, international grants offer access to advanced infrastructure, mentorship networks, and diverse expertise which enables the acceleration of scientific progress and personal career growth.

Specialized Today, Transformative Tomorrow

The field this grants supports is typically niche in the sense that it targets high-impact and emerging areas such as energy storage materials & applications along with AI-driven innovation, Dr. Rao in his statement . While the domain may appear specialized, its outcomes have broad societal relevance. This focus ensures that the funded projects are pioneering, contributing not only to scientific advancement but also to sustainable technological solutions and creating a path to commercialization.

Dr. R. Prasada Rao, Co-Founder, CEO, Thiospark Energy Pte Ltd., Singapore. He has more than 15 years of experience in the battery field. He is an award winning entrepreneur & innovator in battery technology. He developed and pioneered the first commercial solid-state lithium sulfur battery, achieving 5x energy storage, enhanced cycle life, safety, and cost efficiency.

Unlocking Scale: Equipment, Personnel, and Joint Innovation

As Dr. Rao explains receiving an international grant brings credibility and global recognition to both the researcher and their institution. It enables larger-scale experiments, acquisition of high-end instrumentation, and the hiring of skilled research personnel. Furthermore, it strengthens institutional partnerships, often leading to joint publications, patents, and downstream innovation opportunities. The grant also opens doors to policy-level engagement and industry collaborations, supporting the transition from academic research to technology commercialization.

How to Build a Fundable Proposal

"Reviewers back clarity over complexity; show the logic, the milestones, and the path to impact," says Dr. Rao. Start with a precise problem statement grounded in stakeholder needs. Show what is novel, why it matters now, and how society will feel the difference and then connect that narrative to auditable outcomes. Present a realistic workplan (milestones, risks, contingencies), clarify roles and governance, and include a translation path (pilots, validation/standards, regulatory steps), a data and ethics plan. I recommend the students and researchers get the leanings from Dr. Rao to do research to impact the international community.

Field Testing the Future: PNH and NVL in Action

By Nursyuhada Othman, Ph.D

NVL
NEST VENTURE LAB

PNH is a Japanese company pioneering a compact, end-to-end system for converting agricultural waste into biochar, a carbon-rich, environmentally beneficial material that can improve soil health, reduce emissions, and serve as a sustainable fuel source. Their technology processes materials like spent coffee grounds and biomass through a series of steps: dewatering, grinding, pyrolysis (carbonization), and pelletizing. The result is a clean, solid product that is easy to transport, apply, and use across various industries.

As part of its international development strategy, PNH has partnered with Nest Venture Lab (NVL) to bring its innovation into the Malaysian market. NVL, Leave a Nest's in-house R&D and venture co-creation platform, supports early-stage technologies like PNH's by providing structured validation and collaborative entry points into new environments. Through this partnership, NVL is facilitating a proof-of-concept (POC) project that allows PNH to test their biochar production line in a real-use Malaysian context. This includes evaluating the system's safety, operability, and environmental performance under local conditions. NVL helps coordinate logistics, match the company with relevant researchers and field sites, and ensure both sides share learnings without compromising intellectual property.

The collaboration illustrates NVL's role in enabling innovation: by managing risk, setting clear trial objectives, and connecting stakeholders, NVL ensures that promising technologies don't remain in the lab but reach the field. In this way, PNH benefits from local insights, while Malaysian partners gain exposure to international solutions tackling sustainability challenges. This partnership also opens the door to deeper collaboration with universities, for analytical testing, environmental data capture, or co-developing improvements. As NVL continues to grow its lab network and industry engagement, projects like this highlight how NVL acts as a launchpad for real-world innovation, helping global technologies take root and thrive in Malaysia.

For more information, please visit the website : https://pnh.co.jp/en/

GLOBAL ALGAE SUMMIT: DRIVING THE FUTURE OF GREEN BIOTECHNOLOGY

By Hadi Akbar Bin Dahlan, Ph.D

A Journey that Began in 2023

The **Global Algae Summit (GAS)** was first organized in **2023** at *Azman Hashim Hall, Universiti Teknologi Malaysia (UTM), Kuala Lumpur.* Co-organized from the very beginning with **Euglena Malaysia Sdn. Bhd.,** the summit was established to create a collaborative platform for scientists, industry leaders, policymakers, and entrepreneurs in the growing algae sector.

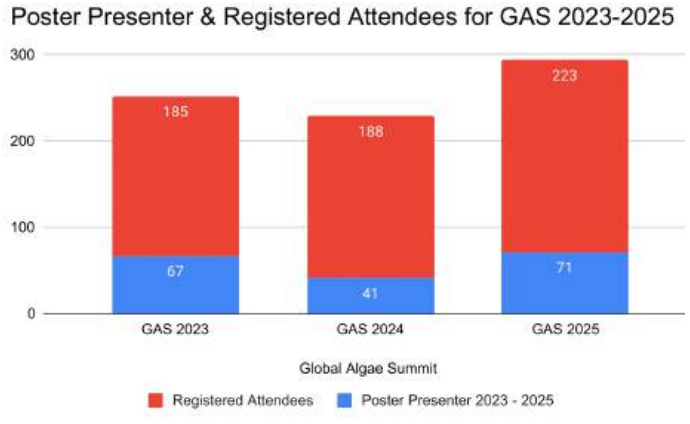
Over the years, GAS has evolved into a major regional event, continuing annually with strong participation and expanding impact. The series has successfully run for three years; GAS 2023, GAS 2024, and GAS 2025 and is poised to continue as an important part of the algae innovation ecosystem.

Objectives of the Summit

The Global Algae Summit aims to foster collaboration among academia, industry, and government to advance algae-based technologies and commercialization. It also serves as a platform to showcase innovation across diverse fields such as biotechnology, biofuels, food and feed, cosmetics, and pharmaceuticals. Additionally, the summit seeks to address key industry challenges by identifying opportunities and developing effective strategies for regulation, large-scale production, and market adoption.

A Growing Global Community of Algae Innovators

Over the years, the **Global Algae Summit (GAS)** has experienced steady growth in participation, reflecting the rising global interest in algae as a vital component of the green economy. Attendance increased from **185 participants in 2023 to 223 in 2025**, signaling the summit's expanding influence beyond academia to include professionals from **biotechnology, agriculture, renewable energy, and environmental sectors.** This progression underscores the growing recognition of algae's potential in advancing sustainable industries and bio-based innovation.



Group photo of the 1st Global Algae Summit in 2023

A key highlight of each summit is the **poster presentation session**, which provides a dynamic platform for young researchers and professionals to share their latest findings. Topics have spanned a wide range from **microalgae cultivation and bioactive compound extraction to bioplastics development and sustainable food production**. These interactive sessions have also encouraged valuable networking and collaboration between early-career scientists and industry representatives.

What began in 2023 with participants primarily from Malaysia, Japan, and Taiwan has now evolved into a truly international gathering. By 2025, GAS successfully attracted delegates from **nine countries** including **India, the United Kingdom, Taiwan, Singapore, the Philippines, Indonesia, Nigeria, Japan, and Vietnam.** This growing diversity has enriched the summit's discussions, fostering cross-border partnerships and reinforcing its position as a leading platform for algae research and innovation in the region.

Looking Ahead: GAS 2026 and Beyond

The success of GAS over the past three years has set a strong foundation for the future. The organizing committee is proud to announce that planning for GAS 2026 is already underway. With continued collaboration between academia, industry, and government, the Global Algae Summit is expected to remain a key catalyst for advancing the global algae bioeconomy.

As the world turns toward sustainable solutions, GAS will continue to inspire innovation, foster collaboration, and celebrate the transformative potential of algae.

THE HYPER INTERDISCIPLINARY CONFERENCE 2026 SERIES: CRAFTING THE POWER OF COLLABORATION

Hyper Interdisciplinary Conference

HIC

Leave a Nest proudly announces the Hyper Interdisciplinary Conference (HIC) 2026 Series, a platform for research and knowledge manufacturing that brings together researchers, entrepreneurs, industry leaders, and policymakers across Southeast Asia. Each one-day conference will spotlight how cross-sector collaboration can drive sustainability, innovation, and inclusive growth.

More than just a gathering of ideas, the HIC Series acts as a catalyst for lasting connections across disciplines, nurturing collaborations that transform research into real-world impact as Leave a Nest advances its mission of Hyper Interdisciplinary Communication. It marks the first step toward collective action in addressing societal challenges and shaping a future where science, innovation, and collaboration thrive together.

HIC Vietnam 2026

When:
January 24, 2026

Where:
Ho Chi Minh City, Vietnam

About:
Sustainability Collaboration through Connecting Minds for a Greener Future

As Vietnam continues to experience rapid industrial and social transformation amid increasing climate vulnerability, HIC Vietnam 2026 emphasizes the importance of bridging **knowledge, technology, and local wisdom.** The event will foster meaningful dialogue and cross-sector partnerships to advance **environmental sustainability, public health, and resilient economic development.**

By bringing together diverse minds, this conference aims to **inspire collective action and innovation** toward building a greener, healthier, and more sustainable future for all.

HIC Thailand 2026

When:
January 31, 2026

Where:
Thammasat University, Thailand

About:
Re-imagining Connections: From Education to Ecosystem

As Thailand moves toward a vision of "**universities reimagined,**" HIC Thailand 2026 explores how education can evolve to meet industry needs and global challenges. The conference will highlight the interconnected roles of **communities, industries, environments, and academia** in shaping the nation's sustainable future.

By reimagining how knowledge flows from education to ecosystems, participants will uncover new pathways for **innovation, social impact, and policy transformation** in Thailand and beyond.

HIC Indonesia 2026

When:
February 7, 2026

Where:
Bandung, Indonesia

About:
Converging Knowledge, Creating Sustainable Futures

In alignment with **Visi Indonesia 2045**, HIC Indonesia 2026 focuses on the nation's twin goals: advancing human development through science and technology, and fostering a sustainable economy. This event embodies Leave a Nest's mission to **connect researchers, entrepreneurs, industries, and communities** to co-create impactful solutions.

Through interdisciplinary collaboration, the conference seeks to strengthen Indonesia's **deep tech ecosystem**, accelerate sustainable industry growth, and support **local innovations on the global stage:** paving the way toward Indonesia Emas 2045.

BRIDGING TRADITION AND SCIENCE TO SAFEGUARD MALAYSIA'S HEALING HERITAGE

By Nursyuhada Othman, Ph.D

Dr. Fadzureena Jamaludin is one of Malaysia's most passionate advocates for traditional knowledge (TK). As a Senior Research Officer and Head of the Bioresources Programme in the Natural Products Division at the Forest Research Institute Malaysia (FRIM), she is an expert spanning natural products chemistry, bioassays, traditional knowledge documentation and ethnobotany. This unique combination enables her to bridge the gap between the ancient and the modern, between community traditions and cutting-edge science.

Dr.Fadzureena Jamaludin, Senior Research Officer at the Forest Research Institute Malaysia (FRIM)

From Lab Discoveries to Protecting Heritage

Dr. Fadzureena's journey began with her PhD in 2009, she has been leading the initiatives to establish mechanisms and conduct research to explore traditional knowledge TK and medicinal plants passed down among indigenous people. Her work focused on identifying active compounds and exploring their medicinal potential. Her studies on Baeckea frutescens (cucur atap) revealed compounds with xanthine-oxidase inhibitory activity, showing potential for gout management. Besides, she also champions in preservation and scientific validation of Malaysia's botanical heritage, ensuring traditional wisdom continues to inspire innovative healthcare solutions.

Traditional Knowledge: A Treasure Still in the Shadows

"Traditional knowledge in Malaysia is still behind," she notes. Unlike well-established Traditional Chinese Medicine, Malaysia's TK remains mostly within communities, quietly passed through generations. Yet, she sees progress as national efforts to preserve and validate this heritage strengthen. For Dr. Fadzureena, the challenge lies not only in documenting TK but ensuring its relevance today by validating traditional remedies scientifically, protecting indigenous rights through benefit-sharing agreements, and developing innovative products that blend tradition with modern needs. Her vision is clear: "We need to prevent TK from being lost, misused, or stolen, and instead turn it into something that benefits the very communities that have protected this knowledge for centuries."

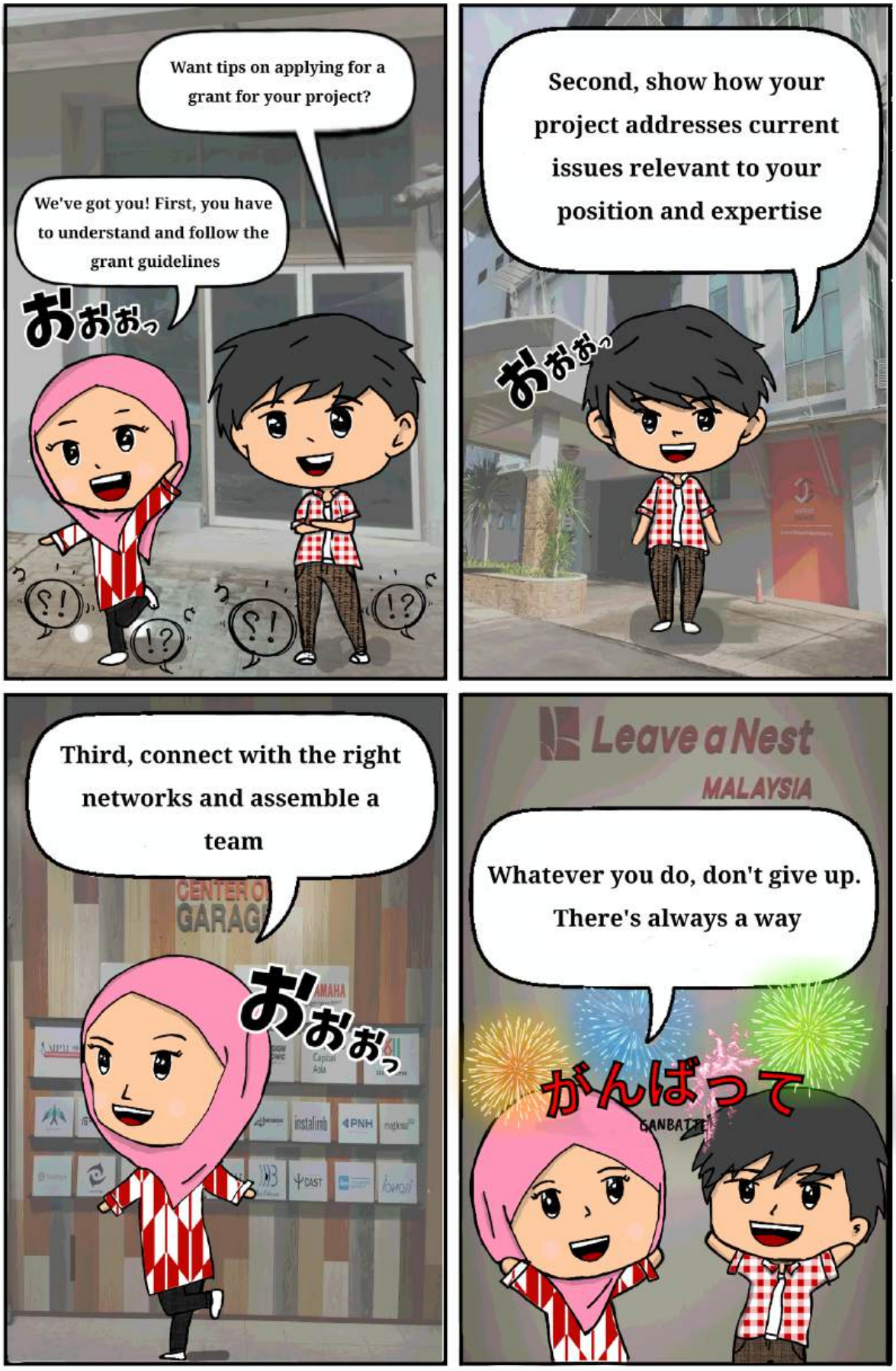
Why Traditional Knowledge is Crucial

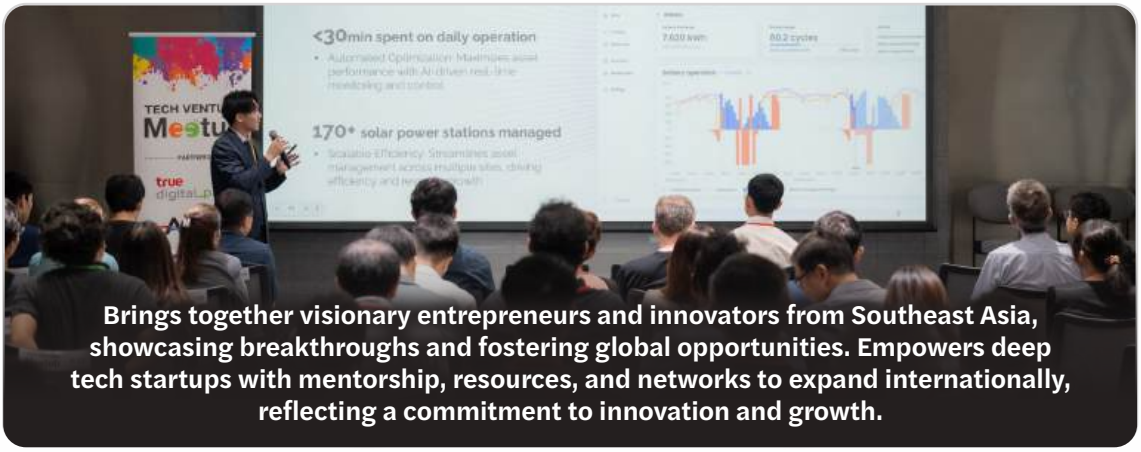
For Dr. Fadzureena, the work is urgent. Traditional plant knowledge is at risk from modernization, habitat loss, and generational change. She believes continued research and documentation are essential not only for biodiversity conservation but also for safeguarding cultural identity and developing Malaysia's herbal industry. Her work has already demonstrated that when traditional wisdom is respected and scientifically validated, it can create sustainable pathways for health, livelihoods, and national heritage. As one of Malaysia's leading voices in biodiversity and TK conservation, Dr. Fadzureena stands as a bridge between the forest and the future. At LVNS, we proudly support efforts like Dr. Fadzureena's to safeguard Malaysia's traditional knowledge, preserving our nation's heritage while inspiring future innovation through science and community collaboration.

Dr. Fadzureena conducting interviews with indigenous community members

GET YOUR BIG IDEAS FUNDED

Illustrated by: Ni'matullah bin Arshad, B.Sc
Concept by: Anis Nadyra Zifruddin, Ph.D





Brings together visionary entrepreneurs and innovators from Southeast Asia, showcasing breakthroughs and fostering global opportunities. Empowers deep tech startups with mentorship, resources, and networks to expand internationally, reflecting a commitment to innovation and growth.

Creates meaningful partnerships across borders, connecting entrepreneurs, mentors, and industry leaders. Facilitates knowledge sharing and opportunities that enable Southeast Asian startups to thrive on the global stage.

Recognizes pioneering founders and groundbreaking technologies that drive deep tech innovation. Highlights the power of regional collaboration in shaping industries and communities across Southeast Asia.

REGIONAL SCALE UP

Scaling a deep tech startup beyond local borders is more than just expansion, it's about building meaningful connections across regions. In Southeast Asia, where the startup ecosystem is still growing, this journey is supported by soft-landing programs, mentorship, and regulatory guidance from international partners. Local organizations and funding bodies are also stepping up to back founders with global ambitions.

At the core of this movement are visionary entrepreneurs, founders who are not only building technologies but also reshaping industries and communities. With the support of various platforms, these innovators gain access to the tools, networks, and opportunities needed to navigate unfamiliar markets and thrive internationally.

As we wrap up this year's TECH PLANTER and recognize the success of grand winners and finalists, we look ahead to TECH PLANTER 2026, Deep Tech Venture of the Year, and the growing TECH VENTURE Meetup community. Together, these milestones highlight a rising wave of innovators who are boldly taking Southeast Asian deep tech to the global stage.

MALAYSIA'S SOFT-LANDING ADVANTAGE: A LAUNCHPAD FOR GLOBAL STARTUPS IN SOUTHEAST ASIA

By Dania Qarrina Azman, Ph.D

As Southeast Asia's innovation economy accelerates, Malaysia is becoming a preferred launchpad for international startups. With strong government backing, a vibrant ecosystem, and strategic tech hubs, the country offers an ideal gateway into the ASEAN market. Programmes like Centre of Garage Malaysia (COGMY), Cyberview's Soft Landing Zone (SLZ), and MRANTI's Global Innovation Exchange are shaping a cohesive ecosystem built on collaboration, mentorship, and market access.

Centre of Garage Malaysia: Deep-Tech Collaboration Across Borders

The Centre of Garage Malaysia (COGMY), established by Leave a Nest, is a deep-tech incubation hub helping foreign startups enter Malaysia and expand across ASEAN. Its soft landing programme provides coworking and fabrication spaces, manufacturing tools, and technical guidance while connecting startups with local manufacturers, universities, and government partners for real-world validation. Focused on deep-tech and Japan's monozukuri culture, COGMY bridges Japanese expertise with Southeast Asian opportunities. A key success is CAST Inc., a Japanese sensor-technology firm that chose Malaysia as its regional base and partnered with Beyond Horizon Technologies to deliver advanced inspection solutions for the oil and gas sector. CAST provides proprietary ultrasonic sensors, while Beyond Horizon contributes drone and robotics capabilities, showcasing how COGMY drives localisation, collaboration, and regional growth.

Cyberview: Launching Global Startups from Malaysia's Smart City

Introduced in 2022, Cyberview's Soft Landing Zone (SLZ) provides a cost-effective, low-risk pathway for international startups and tech companies exploring the Malaysian market. Based in Cyberjaya, the programme offers subsidised workspaces, business facilitation, and access to an established ecosystem of universities, corporates, and early tech adopters. Through the Cyberview Living Lab, startups can test and validate their solutions in a real smart-city environment. In 2023, Cyberview collaborated with Invest Selangor Berhad to integrate the SLZ with the state's Selangor Soft-Landing (SSL) Programme, helping technology companies from Australia and Germany establish local operations. Cyberview also partnered with the Japan External Trade Organization (JETRO) under the Global Acceleration Hub to support Japanese investors, reinforcing Cyberjaya's role as Selangor's leading global tech and innovation hub.

MRANTI: Bridging Global Innovation and Malaysia's Strategic Growth

At the Malaysian Research Accelerator for Technology and Innovation (MRANTI), the Global Innovation Exchange serves as a comprehensive soft landing platform that helps international startups enter and scale in Malaysia. The programme provides end-to-end support, from strategic partner matching and pilot facilitation to funding access and incentives. With a network of more than 4,000 SMEs and startups, MRANTI connects government, corporates, academia, and entrepreneurs through its quadruple helix model. A strong example is a Singapore startup specialising in robotic arms for manufacturing, which MRANTI matched with a Penang-based partner to pilot its technology on local production lines. The successful trial reduced downtime and validated the solution for Malaysia's industrial market, enabling the company to use its Malaysian operation as a hub for regional expansion.

Malaysia's soft landing ecosystem goes beyond entry support. It reflects a national vision of collaboration and innovation, combining cost-efficient infrastructure, regional connectivity, and local expertise to position the country as Southeast Asia's leading innovation gateway.

BRIDGING BORDERS: HOW ASEAN PARTNERS BUILD SOFT-LANDING ZONES FOR GLOBAL STARTUPS

by Khalid Khalil, MSc

As Southeast Asia's innovation landscape continues to surge, two ecosystem enablers, **The Sentry Group (Vietnam)** and **KUMPUL (Indonesia)**, are leading the charge in helping international startups land, grow, and thrive in the region. Through dedicated soft-landing programs, these organizations provide the support, networks, and insights needed for global innovators to establish a sustainable presence in ASEAN's dynamic markets.

The Sentry Group: Vietnam's Gateway for Global Innovators

In the heart of Ho Chi Minh City, **The Sentry Group** has become a trusted launchpad for international startups eyeing Vietnam's booming economy. Founded as a community-driven coworking and innovation hub, The Sentry offers more than just flexible workspace, it delivers **comprehensive soft-landing support** that includes legal consultation, mentorship, and market access.

CEO **Greg Ohan** explains that the initiative was created in response to rising international interest in Vietnam's market, where startups often face regulatory and cultural barriers. To bridge these gaps, The Sentry provides hands-on guidance, connects entrepreneurs to reliable advisors, and hosts community events. Collaborations with educational organizations such as university, corporations, and local government programs further strengthen its role as a bridge for cross-border innovation. With its personalized approach and community-driven ethos, The Sentry positions Vietnam as a **strategic entry point** for startups expanding across Southeast Asia.

KUMPUL Indonesia: Empowering Connections Across an Archipelago

Across the ASEAN region, KUMPUL is redefining how foreign startups access one of the world's largest and most diverse markets. Founded in 2015, KUMPUL's mission reflected in its name, meaning "gather" is to empower innovation entrepreneur communities nationwide. Supported by Indonesia's Ministry of Communication and Informatics under the "1000 Digital Startups" initiative, KUMPUL's first national program, extends beyond startups to uplift micro, small, and medium enterprises (MSMEs), the backbone of Indonesia's economy.

Its soft-landing program offers a structured 2-6 months journey that helps international founders understand local market dynamics, build partnerships, and assess readiness before entry. Collaborating with global partners from government agencies to multinational corporations from over 15 countries, KUMPUL combines data-driven research with mentorship, business matching, and post-program engagement to ensure lasting impact. Ester Widya emphasizes that success in Indonesia requires patience and connection: *"Founders must enjoy the process, build networks slowly, and find the right mentors and investors."*

A Shared Vision for ASEAN Collaboration

Both The Sentry and KUMPUL embody ASEAN's growing spirit of collaboration by creating ecosystems where global startups can find not only opportunity but community. Their efforts underline a shared belief: that innovation flourishes when borders become bridges, and Southeast Asia remains the world's next great frontier for entrepreneurial growth.

FROM LOCAL ROOTS TO GLOBAL REACH: HOW BELL LIVING LAB TURNS WASTE INTO SUSTAINABLE FUTURES

By Ayu Permata, BSc

Deep in Indonesia's protected forests, where they hoped to make scientific discoveries, two biology majors instead found something far more ordinary: plastic waste scattered across the wild. *"Even in the deepest part of the forest, which is restricted for humans, we still found plastic,"* recalled Arka Irfani, Co-Founder of Bell Living Lab.

That moment revealed that true conservation goes beyond protecting animals. It begins with rethinking the materials we create and consume. This belief became the foundation of Bell Living Lab, a Bandung-born biomaterials company transforming organic waste into sustainable design solutions.

Transforming Waste into Value

Arka and his partner began experimenting with natural degradation processes to find more sustainable alternatives to conventional materials. Their early research led to the discovery of a bacterium capable of converting organic waste into usable materials.

M-TEX, their first innovation, was developed from coffee waste as a sustainable alternative to leather. As one of the world's largest coffee producers, Indonesia generates nearly 800,000 tons of coffee by-products each year, waste that the company transforms into functional, eco-friendly materials.

Since then, the company has expanded its catalogue to include Kalpa, a panel material for interiors and furniture, and C-Foam, a flexible compound for everyday products. The name "Bell" comes from the bell curve, representing biodiversity on Earth: a reminder of the balance they aim to protect.

Mr. Arka Irfani
Co-Founder and CEO of Bell Living Labs

Expanding Beyond Borders

Bell Living Lab's overseas journey began as the global demand for sustainable materials surged. The team recognised the need for eco-friendly alternatives beyond Indonesia, as others sought solutions to reduce environmental impact.

The company has started exploring applications abroad. Their patented fermentation technology allows them to adapt production processes to different types of organic waste found around the world.

Adapting to local markets, however, brought its own challenges. When introducing their materials to Japan, the team discovered that colder climates affected product flexibility, causing the material to stiffen during winter. This prompted further research and development to refine the formula, ensuring that each material not only stood out for its innovation but also met the performance needs of different environments.

A Vision for a Biocircular Future

Looking ahead, Arka envisions Bell Living Lab as a global, inclusive biomaterials company. He believes biomaterials should no longer be exclusive to advanced economies, but affordable and adaptable everywhere. *"Every country has its own resources that can be used,"* he said. *"We want to empower each region to create from its own waste."*

From its origins in conservation to its growing global footprint, Bell Living Lab embodies Indonesia's emerging spirit of sustainable innovation, proving that even waste can become the foundation for a cleaner, smarter future.

THE JOURNEY OF MR. JUNADY AND TERAJU: CHARTING BUMIPUTERA PROGRESS THROUGH PURPOSE

By Aisyah Abdul Hamid, MBioSc

When Mr. Junady Nawawi first joined TERAJU (Unit Peneraju Agenda Bumiputera) in November 2014, he stepped into an organization that had already become a cornerstone of Malaysia's Bumiputera economic empowerment. Over a decade later, his story intertwines deeply with the nation's effort to transform its socioeconomic landscape, from the early days of TERAJU 1.0 to today's ambitious Pelan Transformasi Ekonomi Bumiputera 2035 (PuTERA35). Mr. Junady's return to TERAJU as Chief Executive Officer underscores the spirit of renewal and adaptability essential to sustaining impact in an ever-evolving economic environment. His journey reflects not only personal growth but also the evolution of TERAJU itself, from a secretariat supporting policy coordination to a strategic agency shaping the Bumiputera future.

From Secretariat to Strategic Agency

The Bumiputera development agenda has progressed through key phases reflecting Malaysia's steadfast commitment to empowerment. Starting with the Bumiputera Agenda Action Council (MTAB) under the Prime Minister's Department, coordination was enhanced in 2011 through the establishment of TERAJU (Unit Peneraju Agenda Bumiputera) as its secretariat. By 2013, MTAB evolved into the Bumiputera Economic Council (MEB), strengthening the agenda's economic focus. TERAJU's mandate expanded in 2015 and was reaffirmed by the Economic Action Council (EAC) in 2020, designating it as the primary coordinating body. In 2023, TERAJU was placed under the Ministry of Economy, ensuring continued alignment with national development priorities.

TERAJU, founded on the concept of Teraju Tiga, the "fulcrum of the wau bulan," as described by Mr. Junady, symbolizes balance, motion, and aspiration in advancing the Bumiputera agenda. Through continuous collaboration with ministries, government-linked companies (GLCs), and private-sector partners, TERAJU has evolved into a dynamic agency with a clear mission: to coordinate, empower, and accelerate Bumiputera participation nationwide.

Navigating Change and Building Resilience

Mr. Junady left TERAJU in September 2021 to serve with MyCreative Ventures as a Group CEO, where he gained valuable exposure to creative economy and investment funding. By September 2023, he returned to lead TERAJU at a critical juncture, just as the government under the MADANI framework renewed its focus on inclusivity and sustainability.

His return coincided with preparations for the Kongres Ekonomi Bumiputera (KEB) in 2024 and the development of PuTERA35, which the Prime Minister launched on 19 August 2024. This marked a transition from episodic policy initiatives to a 10-year transformation roadmap with measurable outcomes.

PuTERA35: Not Reinventing, but Re-Emphasizing

PuTERA35 is spearheaded by the Ministry of Economy to transform Bumiputera participation in Malaysia's economy. It builds upon six decades of empowerment policies — from the post-independence socioeconomic reforms (1956–1970), through Wawasan 2020, to the current Ekonomi MADANI framework. For Mr. Junady, PuTERA35 represents continuity with clarity. He remarks that "we're not reinventing the wheel, we're re-emphasizing what works."

At its heart, PuTERA35 envisions uplifting Bumiputera dignity and participation in meaningful, sustainable ways. Its theme, "Penyertaan, Pemilikan dan Penguasaan yang lebih bermakna" (Meaningful participation, ownership, and mastery), underpins a structure comprising: 3 Pillars, 12 Drivers and 132 Initiatives. The plan consolidates into a cohesive framework built on three pillars:

1. Economic Empowerment — strengthening ownership, participation, and high-value industry creation.
2. Governance and Institutional Integrity — reinforcing coordination, transparency, and policy delivery.
3. Social Equity and Inclusivity — eradicating poverty, expanding social protection, and empowering marginalized groups.

Under PuTERA35, TERAJU functions as a strategic enabler rather than a mere grant provider, connecting entrepreneurs with capital, markets, and partners while ensuring accountability through key performance assessments.

Driving Measurable Impact with Purpose

For Mr. Junady, the strength of PuTERA35 lies in its measurable impact and inclusive vision. Aligned with Ekonomi MADANI and the Twelfth Malaysia Plan (RMKe-12), it targets raising Bumiputera equity ownership to 30%, increasing skilled workforce participation to 81%, and eradicating absolute poverty by 2035. More than an economic roadmap, Mr. Junady views PuTERA35 as a societal transformation agenda that builds resilience and empowerment through equitable participation in high-value sectors such as technology, the green economy, and halal industries.

PuTERA35 narrows regional gaps by empowering Sabah, Sarawak, and Orang Asli (aborigines) communities and fostering shared governance with state governments and Perbadanan Kemajuan Ekonomi Negeri (PKEN). Through Dana Pembangunan Usahawan Bumiputera (DPUB), TERAJU partners with local institutions to nurture community entrepreneurship, helping rural producers scale local products like stingless bee honey and Nipah palm sugar. Anchored on the High Growth, High Value (HGHV) agenda, Mr. Junady emphasizes the importance of "unlocking value where it already exists", to nurture innovation and sustainability and turning local potential into engines of inclusive national growth.

The Road Ahead

As Malaysia moves forward, TERAJU's strategy emphasizes precision over expansion, adopting a targeted, case-by-case approach rather than a one-size-fits-all model. Its collaboration with agencies like Majlis Amanah Rakyat (MARA), Perbadanan Usahawan Nasional Berhad (PUNB), Ekuiti Nasional Berhad (Ekuinas), and state economic corporations ensures alignment from federal to local levels.

For Mr. Junady, TERAJU's strength lies in its dual role: policy shaper and facilitator. "Our responsibility," he notes, "is not to spoon-feed, but to help Bumiputera entrepreneurs find their own way." Through PuTERA35, TERAJU continues to embody the spirit of Bumiputera empowerment, adaptive, inclusive, and forward-looking, ensuring that by 2035, Malaysia's economic progress truly reflects the strength and diversity of its people.

BLENDING ROOTS AND RESOLVE: THE VISIONARY JOURNEY OF MOHAMAD FAISAL AHMAD FADZIL

By Fariz Syafiq, MSc

For Mr. Mohamad Faisal Ahmad Fadzil, entrepreneurship has always been about purpose rather than prestige. Raised in a family deeply rooted in traditional healing and community service, his path was shaped by the values of care, discipline, and heritage. His grandfather was a respected herbalist, his father's grand aunt, a midwife to the Malay Royal family. His mother, a nurse and Tupperware seller, went on to establish her own herbal brand, Jamu Tradisional Asli. In this environment, wellness was not a trend, but it was a way of life.

From Chef Aspirations to Herbal Traditions

Mr. Faisal once dreamed of becoming a chef, captivated by the artistry and emotion of cooking. But his mother envisioned something greater, a legacy rooted in purpose. Encouraged by her, he began to help her to craft concoction in their home kitchen, a humble start that grew into a meaningful journey. Profit was never his compass; instead, Mr. Faisal built his brand on a triple ethic, human-friendly, animal-friendly, and earth-friendly. Every formulation remains vegan, paraben-free, and natural, crafted with a chef's precision and deep respect for every ingredient.

Building a Foundation for Impact

Recognising the need for professionalism and compliance, Mr. Faisal built one of Malaysia's first Good Manufacturing Practice (GMP) certified herbal factories in Kuala Selangor. The facility marked a major milestone not just for his business but for the broader legitimacy of traditional wellness in modern markets. He soon expanded into Original Equipment Manufacturer (OEM), producing for names like Revell, Cosway, and Amway. It was during these years that Mr. Faisal sharpened his technical skills and business instincts.

Choosing Partnership Over Private Equity

Despite a strong product foundation and loyal following, Mr. Faisal recognised limitations in scaling sales and operations. Instead of replacing one private equity (PE) firm investment with another PE investors, he made a deliberate shift, partnering with Sedania Innovator, a publicly listed group known for its structured systems and forward-thinking approach. The collaboration marked a new chapter. Together, they are exploring innovative retail models like sensory-based test centres where customers can engage directly with products without the overhead of full-scale stores. It's a way to blend touch, tradition and technology.

> *"The right partner is like a good marriage,"* he says. *"You grow together, not apart."*

Pioneering the Future of Malaysian Wellness

For Mr. Faisal, every decision is guided by long-term vision. He advocates for broader adoption of Malaysian brands in Government Linked Company (GLC) supply chains and investing in sustainability through ocean-bound recycled plastics. His mission remains clear: to prove that natural wellness, when rooted in heritage and led with integrity, can stand on any global stage.

What began as a kitchen project is now a movement and at its heart is a founder still led by purpose, still experimenting, and still grounded in the red earth that started it all.

BEYOND BORDERS: DR. KA YI LING ON BUILDING GLOBAL INNOVATION BRIDGES

By Priyavadana Meyyappan, MSc

When Dr. Ka Yi Ling left Singapore for Melbourne, she did not see it as a farewell. She saw it as an expansion. In this conversation with Priyavadana Meyyappan, Dr. Ka Yi Ling reflects on her journey from lab researcher to startup founder, from leading Shiok Meats — Singapore's pioneering cultivated seafood company — to mentoring academic spin-offs as part of the University of Melbourne's venture studio. Her story marks the debut of Nest Garage Magazine's new column, Wings Abroad, which celebrates Southeast Asia innovators transforming global ecosystems.

From Scientist to Startup Founder

Ka Yi Ling's fascination with research began early, first at A*STAR and later through a scholarship that took her to the University of Wisconsin–Madison, where she pursued endocrinology and reproductive physiology. *"I loved science,"* she recalls, *"but I also realised how much I enjoyed talking about it."*

Back in Singapore, that passion for communication and impact soon collided with opportunity. In 2018, she co-founded Shiok Meats, driven by a desire to make sustainable food a tangible reality. *"We started when cultivated meat was almost unheard of in Asia,"* she says. The early days were far from glamorous — hauling lab equipment by boat to St John's Island, building cell-culture infrastructure from scratch, and convincing investors that the idea was not science fiction.

The perseverance paid off. Shiok Meats became a regional deep-tech success story, securing angel funding, graduating from Entrepreneur First and Y Combinator, and eventually raising over US $30 million. The company grew from a two-person dream to a 60-strong team, proving that Singapore could be a birthplace for world-class biotech startups.

Letting Go and Starting Again

As Shiok Meats scaled, Ka Yi Ling's role evolved from hands-on science to managing people, operations, and fundraising. *"You start as the scientist in the lab,"* she reflects, *"but soon you're managing everything except science."*

Then came the turbulence of 2022 — market downturns, difficult fundraising, and burnout. After years of relentless building, she decided to step back, relocating to Melbourne in 2023 to join her husband and begin a new chapter.

As Venture Creator at the University of Melbourne, Ka Yi Ling helps researchers, alumni, and students transform discoveries into startups in life sciences, medical innovation, and food tech — areas that mirror her own entrepreneurial roots.

She notes that academic spin-offs face a distinct challenge: *"Researchers are driven by discovery; founders by speed and market fit. Successful ventures need both — but not always from the same people."* Her approach? Build two empowered teams — one focused on science, the other on commercialization — so that *"the lab and the market learn to speak each other's language."*

Lessons from the Startup Trenches

Reflecting on her journey, Ka Yi Ling advises founders to *"hire your own lawyer and learn your numbers — even if you're a scientist."* But her biggest lesson is about people, not processes. *"Startups rarely fail because of technology; they fail because of people."*

She stresses humility and self-awareness: founders must know when to step back and let others lead. *"It's not losing your place,"* she says, *"it's ensuring your vision lives on."*

DEEP TECH TRIUMPHS: HIGHLIGHTING THE TECH PLANTER ASIA 2025 GRAND WINNERS

By Joanna Marie Cua, BSc

The TECH PLANTER is a deep tech ecosystem and platform established by Leave a Nest to discover and nurture early-stage, science and technology-driven startups aiming to address real-world challenges. - Through mentorship, collaboration, and exposure to industry partners, TECH PLANTER connects researchers and entrepreneurs with opportunities to turn their innovations into impactful businesses.

In its 2025 season, TECH PLANTER continued to expand its reach across Asia, hosting regional Demo Days in six key countries: Philippines, Singapore, Malaysia, Vietnam, Thailand, and Indonesia. Each Demo Day served as a national stage for startups to showcase their groundbreaking technologies and solutions. The winning teams from each country advanced to the TECH PLANTER Asia Final 2025, where they presented their innovations to a distinguished panel of judges, corporate partners, and investors, marking the culmination of this year's celebration of Asian deep tech innovation.

The Grand Winners: A Deep Tech Roster

The following six start ups emerged as the Grand Winners in their country's Demo DayEach recognized for their groundbreaking technologies and innovative concepts advancing to the Asia Final 2025.

Philippines: CirPro Innovations

Technology theme: Liquid pectin which solves both the calamansi peel waste on the supply side and the reliance of the Philippines' food and beverage industry Liquid pectin which solves both the calamansi peel waste on the supply side and the reliance of the Philippines' food and beverage industry.

Singapore : Pepshield

Technology theme: Peptide-nanonet based coating for medical devices and surfaces that addresses the issue of bacterial colonization and biofilm formation by physically Peptide-nanonet based coating for medical devices and surfaces that addresses the issue of bacterial colonization and biofilm formation by physically trapping and killing bacteria upon contact.

Malaysia : NanoSkunkWorkX

Technology theme: Centered on the process of turning raw, bulk graphene into manufacturable solutions across three key frontiers: Chips, Hydrogen, and Diagnostics. The company stresses a focus on scientific process, engineering, and material discipline, aiming to produce robust systems with genuine impact, such as the SUSANNE graphene nanofabrication platform, which is designed to enable ultra-efficient AI compute, low-cost green hydrogen, and rapid biosensing.

Vietnam: Seamorny Holdings Pte.

Technology theme: Sustainable AI-powered seafood farming, which focuses on applying cutting-edge AI software and robotics to the aquaculture of soft-shell crabs. By using an innovative, automated recirculating culture system, the company aims to provide a consistent, high-capacity, and low-cost seafood supply while maintaining environmental responsibility.

Thailand : InnoPhytoTech

Technology theme: Providing Innovative bioactive solutions for the food, beverage, supplement, and cosmetic industries by leveraging nature-harvested values and sustainable practices, including the use of agricultural residues. Central to their platform is a Revolutionary enzyme technology to convert fruit sugar into prebiotics, enabling the creation of functional ingredients and products like low-sugar fruit juices and prebiotic sherbets.

Indonesia: BIKI

Technology theme: an End-to-End Agriculture Solution to Reduce Food Loss and Waste throughout the entire supply chain. Their approach uses Eco-technology to increase productivity and extend the shelf life of food, along with a digitalization system for post-harvest treatment and an integrated traceability system (BIKI Trace) to track produce, which together contribute to accelerating a sustainable food system and combating climate change.

A Platform for Global Collaboration

The TECH PLANTER program is more than just a competition; it is a global platform dedicated to bridging the gap between scientific research and societal needs. By connecting these deep tech ventures with corporate partners, investors, and local government agencies, Leave a Nest is accelerating market expansion and technological collaboration across continents.

Interested to join the 2026 deep tech roster?
Register your interest in the next season by scanning the QR code or visiting the link below!

https://techplanter.lne.st/Register_TECHPLANTER2026

BIKI: AN INDONESIAN STARTUP MAKING WAVES AS TECH PLANTER ASIA FINAL GRAND WINNER

By Dania Qarrina, Ph.D

A Mission Born from the Sea

For Muhammad Hafid Rosidin, CEO of BIKI, innovation began with a simple question: *"What if innovation could turn waste into hope for farmers?"*

During an internship at Indonesia's largest shrimp export company in 2015, he discovered that nearly half of every shrimp became waste in the form of shells and heads. With a background in agroindustrial technology from IPB University and a family rooted in farming, Hafid saw potential in what others discarded. Supported by government grants, he transformed shrimp shell waste into chitosan, a natural biomaterial with antibacterial properties. This research led to BIKI's flagship innovation — an edible coating technology that keeps fruits and vegetables fresh longer, helping reduce food loss across Indonesia.

Hafid, the mind behind BIKI's edible coating technology, turns research into real-world solutions.

Innovation Rooted in Science and Community

Indonesia faces major food loss, with nearly 60% of produce wasted along the supply chain. BIKI's edible coating technology offers a natural way to slow spoilage and preserve quality. Through BIKIPoint, a network of farmer partnerships and packing houses, the company integrates coating applications, better handling practices, and digital tracking. Recognized by Bappenas for reducing food loss by 20% at the farmer level, BIKI's innovation now reaches 34 provinces and is expanding to Sabah, Malaysia. Through BikiResearch, the company continues strengthening R&D, earning the Indonesia SDG Action Award (2023) and the Food Innovation Award (2020).

BIKI's passionate team collaborates with farmers to bring science-driven solutions to the field.

Lessons from the Journey

"Back in 2018, I slept beside shrimp shells for eight months," Hafid reminisced and continued, *"It taught me that passion and purpose matter more than comfort."* His advice for innovators echoes Leave a Nest's spirit: *"Have a strong 'why.' Dedicate yourself fully, never give up, and always believe in God's plan."* From discarded shrimp shells to regional acclaim, BIKI's story shows how science, community, and the right ecosystem can turn waste into worth.

Powered by Leave a Nest

"Leave a Nest opened doors we never thought possible. It is not just about funding; it is about finding partners who believe in your mission," Hafid shared. In 2025, BIKI joined Leave a Nest's TECH PLANTER program, earning Grand Winner titles at both the Indonesia and Asia Final. The team felt deeply grateful and humbled to stand among inspiring innovators from across the region.

From Hafid's perspective, accelerator programs, especially global ones, are essential for early-stage startups to grow beyond local boundaries and connect with like-minded innovators. By engaging within the TECH PLANTER ecosystem, BIKI continues to build strong collaborations with Japanese partners such as UntroD, leveraging science and business networks to create global impact. Hafid encourages more startups to be confident, share their ideas internationally, and take part in global programs that can amplify local innovation.

TECH PLANTER 2026: BUILDING THE FUTURE OF DEEP TECH IN SOUTHEAST ASIA

By Aisyah Abdul Hamid, MBioSc

TECH PLANTER has been a platform where startups, researchers, corporates, and investors come together to create real-world impact. It has since grown into a thriving ecosystem spanning from Japan to six Southeast Asian countries: Singapore, Malaysia, Indonesia, Thailand, Vietnam, and the Philippines.

Given today's challenges, our community faces complex societal and environmental issues that demand deep tech - innovations grounded in science and engineering to tackle root causes. TECH PLANTER nurtures this ecosystem, transforming research-driven ideas into sustainable solutions that address the region's most urgent needs.

A Proven Ecosystem

Over the past decade, TECH PLANTER has supported over 4,400 teams and partnered with more than 200 corporations and institutions across Japan and Southeast Asia. Alumni have turned early-stage ideas into impactful ventures, securing investments, launching pilot projects, and expanding internationally. Their success demonstrates how collaboration can turn curiosity and research into scalable innovations.

What's New in 2026

The upcoming season introduces:

- **Cross-Border Collaboration:** Closer integration between Southeast Asian and Japanese finalists, with top teams presenting at the Hyper Interdisciplinary Conference in Tokyo 2027.
- **Expanded Mentorship:** Greater access to Science Bridge Communicators and industry experts to refine strategies and accelerate commercialization.
- **Stronger Partner Collaboration:** New tracks for corporates and investors to engage directly with startups for pilot projects and co-development.

Why Join

For startups and researchers:

- Expert mentorship in business development, scaling, and market entry.
- Direct access to industry partners, investors, and government agencies.
- International exposure through Demo Days, the Asia Final, and global stages.
- Support for early-stage teams, including those not yet incorporated.

For partners:

- Access to cutting-edge innovations and passionate founders.
- Opportunities to co-develop technologies and explore pilot projects.
- Strengthened presence in Southeast Asia's rapidly growing innovation ecosystem

Event Timeline

TECH PLANTER MALAYSIA
DEMO DAY 16 May 2026

TECH PLANTER SINGAPORE
DEMO DAY 23 May 2026

TECH PLANTER the PHILIPPINES
DEMO DAY 30 May 2026

TECH PLANTER VIETNAM
DEMO DAY 11 July 2026

TECH PLANTER THAILAND
DEMO DAY 18 July 2026

TECH PLANTER INDONESIA
DEMO DAY 25 July 2026

TECH PLANTER ASIA FINAL
DEMO DAY 27 August 2026

Be Part of the Journey

As we announce the start of **TECH PLANTER 2026** season, we invite startups, researchers, and partners to join a movement dedicated to advancing science and technology for global happiness. **TECH PLANTER** is more than a competition, it is a platform to foster collaboration, accelerate innovation, and create lasting change.

Apply now at https://techplanter.lne.st/en/

INNOVATION WITH IMPACT:

WINNERS OF LEAVE A NEST'S SOUTHEAST ASIA DEEP TECH VENTURE OF THE YEAR 2026

By Mahirah Basri, MBA

The Leave a Nest Southeast Asia Deep Tech Venture of the Year Award 2026 celebrates startups that fuse cutting-edge research with real-world impact. The winners represent the region's most promising innovators driving sustainable, inclusive, and technology-driven change.

DF Automation (Malaysia): Enhancing Industrial Efficiency Through Robotics

DF Automation & Robotics is a Malaysian robotics company specializing in Autonomous Mobile Robots (AMRs) and Automated Guided Vehicles (AGVs) that automate material handling and logistics across industries such as semiconductors, automotive, electronics, and warehousing. Founded in 2012, the company designs and builds smart, flexible robotic solutions that enhance productivity and workplace safety. With its proprietary navigation technology and fleet management systems, DF's robots are now widely adopted throughout Southeast Asia, India, Europe and beyond.

GaraSTEM (Vietnam): Providing STEM Learning Kits for School Students to Create, Innovate and Code

GaraSTEM is driving a transformation in Vietnam's STEM education landscape. Specializing in robotics, electronics, AI and IoT, GaraSTEM delivers affordable, high-quality kits and software that let students build, program and experiment from an early age. Their G-Robot product line includes dozens of modular kits with sensors and bricks for real-world applications. Their GaraSTEM LMS / Netlearn platform supports schools and teachers in deploying STEM curricula more effectively.

MUU (Thailand): Precision Fermentation as a Sustainable Alternative

MUU is a food-tech company based in Bangkok, Thailand, focused on developing next-gen alternative proteins that support better health, animal welfare, and environmental sustainability through precision fermentation technology. The product, "MUU Protein", has a clean taste and smell, contains no lactose, cholesterol, hormones, or antibiotics, and is suitable for a wide range of applications — enabling high-protein versions of foods and drinks. The production process also reduces environmental impact by over 90% compared to traditional farming.

VFlow Technologies (Singapore): Scalable and Safe Renewable Energy Integration

VFlowTech is a Singapore headquartered deep tech company pioneering vanadium redox flow battery (VRFB) systems for long-duration energy storage. Established in 2018, VFlowTech focuses on developing safe, scalable, and sustainable energy storage solutions. The company has installed their long duration storage systems in over 11 countries globally and is supporting Singapore's ambition to be a global leader in clean energy innovation and with the vision to drive the world towards energy equity where everyone can access clean energy at affordable pricing.

The 2026 Deep Tech Venture of the Year Award winners exemplify how Southeast Asian innovators are transforming global challenges into opportunities through science and technology. Whether reshaping how we produce food, move goods, store energy, or educate future generations, these startups stand at the forefront of purposeful innovation. Their collective achievements highlight the region's growing influence in deep tech entrepreneurship and its commitment to building a smarter, more sustainable, and equitable future.

Leave a Nest

The Knowledge Manufacturing Company

LEAVE A NEST GROUP IS LOOKING FOR YOU!

Manufacture knowledge with us!

WHAT'S IN STORE FOR YOU IN LEAVE A NEST?

- Train to become a **Science Bridge Communicator and Leader:**
  - **Education:** Nurture the next generation through Leave a Nest's own brand of message-driven Science Experiment Workshops and other education programs
  - **Science & Technology Careers:** Lead projects that foster careers of upcoming STEM leaders through science & technology route in academia or corporate, or entrepreneurship path.
  - **Research Ecosystem:** Build support systems for university researchers and students through conferences and privately-funded grants
  - **Deep Tech Startups:** Catalyze growth of tech-enabled innovative deep tech startups that addresses social issues in domains of agriculture, health, food, etc. through
  - **Deep Tech Innovations:** Catalyze growth of tech-enabled and science-based innovative deep tech startups that addresses social issues in domains of agriculture, health, food, marine and others.
- Work directly with experts from Leave a Nest subsidiaries across Southeast Asia and Japan, as well as networks for cross-border projects, article writing, and other initiatives.
- Most importantly, create your own project aligned with your personal curiosity together with other Leave a Nest members!

WHO ARE WE LOOKING FOR?

- Open to degree holders. STEM background and degrees are highly encouraged
- Seeking collaborative leaders who adopt a researcher's mindset to bridge various sectors & stakeholders (academe, corporate, government, etc.)
- Passionate individuals who want to contribute in leveraging science and technology to solve local and global issues

BE THE NEXT SCIENCE BRIDGE COMMUNICATOR

For more inquiries, you may reach us through
Email: INFO-ASIA@LNE.ST
Website: GLOBAL.LNE.ST/JOINUS

2717-5553